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An index to the eighty-sixth volume of THE RAILWAY GAZETTE covering the issues from January 3 to June 27, 1947, has been prepared and is now available free of charge on application to the publisher

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THE RAILWAY GAZETTE

33, TOTHILL STREET, WESTMINSTER, S.W.1.

Government Discussions with F.B.I. on Crisis

ON September 5, Mr. Herbert Morrison and other members of the Cabinet met representatives of the Federation of British Industries to discuss the proposals put forward by the F.B.I., and summarised in our last week's issue, to help in overcoming the economic crisis. These proposals, which were submitted to the Prime Minister in a memorandum, stressed the need for a cut of £450 million in the Government capital programme, parallel reduction in the private sector, and a drastic review of current Government expenditure involving a curtailment of Government staff. At the meeting with members of the Government, the discussion centred particularly on the reduction of projects of capital expenditure, and Ministers indicated their sympathy in principle with the idea, which they stated was under examination by the planning staffs with interested departments. Elaboration of various specific proposals in the F.B.I. memorandum was sought, and the Federation was asked to give further study to the practical details involved in certain of these suggestions in the memorandum, and to advise the Government further on them.

Argentine Rail Deal and Sterling Remittances

On September 3 the Argentine Central Bank announced its resumption of the quotation of sterling, and that it would accept and consider applications for import permits. This was described as a temporary measure, but it marked the initial resumption of dealings since August 21, when as a reaction to the announcement that Great Britain had suspended the convertibility of sterling, the Central Bank ceased to grant import permits and to quote sterling. The latest announcement indicates a change of attitude on the part of the Argentine authorities which will encourage stockholders of British-owned Argentine railways which have been purchased by the Argentine State. The arrangements now announced would enable sterling funds to be remitted to the United Kingdom to make good the balance of £35 million of the £150 million total required for the purchase of the lines under the agreement now awaiting ratification in Argentina.

Sir Montague Eddy on Rail Deal Ratification

In Buenos Aires on September 5, Sir Montague Eddy stated that the sale of the British-owned railways in Argentina to the Argentine Government would go through, and that American reports that completion of the sale had been postponed because of the sterling exchange prices were a distortion of the true position. Sir Montague Eddy, who had seen Senor Miranda twice in the previous week and also had been received by General Peron, added that the only outstanding question related to the payment for the railways, which was tied up with the whole problem of future settlement of balances between the British and Argentine Governments. Sir Montague Eddy was asked whether the Argentine Government might insist on paying for the railways from future earnings of inconvertible sterling, instead of from the present blocked balance, but he said he would not like to express an opinion on this point. He added that he expected to hear something shortly about negotiations for a new payment agreement between the two countries, and he did not expect that ratification of the railway sales would be delayed more than two or three weeks.

Irish Transport System Hotels Management

Coras Iompair Eireann, the Irish Transport System, has appointed Gordon Hotels Limited to supervise the whole of the catering arrangements for restaurant cars and refreshment rooms, and to be entirely responsible for the management of the Great Southern group of hotels in Eire. The Gordon hotels in England include the May Fair and Grosvenor in London, and the Metropole Hotels at Brighton and Folkestone, and abroad it owns the Metropole at Monte Carlo, and the Bristol at Beaulieu-Sur-Mer. Mr. John Ennis, who has had considerable continental experience and latterly has been at the May Fair Hotel, London, has been appointed to supervise the Irish Transport System's hotels and catering services, with headquarters in Dublin. The Irish Transport System has already shown itself fully alive to the potential value of tourist traffic in Eire, and its hotel at Parknasilla has been completely

modernised. A programme for the modernisation of other hotels—at Killarney, Kenmare, Mulvany, Galway, and Sligo—and refreshment rooms is now being worked out. It also has in progress plans which should add considerably to the travel comfort of tourists.

Railway Stockholders and Transport Stock

In the current issue of *The Railway Stockholder*, the journal of the British Railway Stockholders Union, Sir Charles Stuart-Williams, Chairman, and Mr. Ernest Short, General Secretary, in an open letter to members point out that it is now inevitable that railway stockholders' securities will be taken over on January 1 next, when they will receive equivalents in Transport stock. So far, however, stockholders have not been given the all-important information as to what that equivalent of Transport stock is to be. It will depend on the value of 2½ per cent. Consols about the time of the transfer. At the present time, Consols stand at little more than 84½, which is a fall of 16 points during the last two or three months. This, it is suggested, may mean that the rate of interest which the Government will have to pay will not be on the 2½ per cent. basis, which the Chancellor of the Exchequer expected when he spoke on the Transport Bill earlier in the year, but on a 3 per cent. basis. To that extent, railway stockholders will be better off than they had expected six months ago. The British Stockholders Union will continue to watch the interests of stockholders while this matter remains for settlement.

The Caledonian Railway Centenary

More than passing interest attaches to the commemoration on September 10 of the centenary of opening for public traffic of the first section (Carlisle to Beattock, 39½ miles) of the main line of the Caledonian Railway. The event was marked by a lunch at the Central Station Hotel, Glasgow, on Wednesday, of which we hope to publish an account next week. The Caledonian Railway Company was incorporated on July 31, 1845, after a stiff parliamentary fight. In the early formative stages there was a fundamental difference of opinion between rival groups of landowners as to the adoption of the Nith Valley or the Annan Valley route, and the final triumph of the Annan Valley was due very largely to the personal efforts and influence of Mr. J. J. Hope Johnstone, the company's first Chairman. The story is told in detail in the book for private circulation by George Graham (one-time Engineer of the company) which is one of the scarcest items in railway literature. The Caledonian Railway went on to complete its share of the West Coast route, as between Carlisle and both Glasgow and Edinburgh, on February 15, 1848. For many years the "Caley" was the largest individual railway in Scotland until that distinction passed to its old rival the North British. North of the Border the influence of its traditions still is by no means inconsiderable.

Longmoor "At Home"

The open day at the Royal Engineers' Transportation Training Centre, Longmoor, last week proved a great success. An account is published on page 302. It is to be hoped that it may become an annual event with a little more previous publicity. Whether future "At Homes" will be favoured by equally ideal weather is perhaps too much to expect. The whole of the Longmoor military railway and its works, and the Longmoor Camp, were thrown open to the public. As the Commandant, Brigadier Gardiner, said in the course of a speech to press representatives, there were few who could resist the fascination of railways, and this was the case at Longmoor, where they lived with them day in and day out. The public that day was being given a unique opportunity of playing with real full-size trains, and, incidentally, learning something about a branch of the Royal Engineers which was less widely known than it merited. He also announced that it was hoped to renew next year the administration and annual training of the Supplementary Reserve Transportation Units. These units are the equivalent of the Territorial Army, and Longmoor is the venue of their camps. He looked forward to a ready response, not only from former members of the Supplementary Reserve, but from the many railway and port men who served with R.E. units during the recent war.

Restored Facilities in G.W.R. Winter Services

Winter train services this year are subject to a 10 per cent. cut in mileage compared with the October, 1946, timetables, and therefore approximate to the restricted schedules introduced last March. There has been more opportunity for advance planning, however, than was available at the time of the fuel crisis, and the G.W.R. timetables coming into force on October 6 offer the public the maximum facilities consistent with the train-mileage reductions. A welcome measure is the restoration of reserved seats, which will be available on seven West of England trains (including the "Cornish Riviera Express" and the "Torbay Express"), on seven South Wales trains, and on two services between Paddington and Birkenhead. In some instances additional stops will enable summer trains that are being retained to serve a wider area. Although additional trains put on for the summer holiday traffic are being withdrawn, a number of restorations is scheduled, among them being afternoon services to the West of England and from Gloucester and Cheltenham to London. Three cross-country trains, which at present run on Saturdays only, will operate daily this winter. There will be three sailings a week on the Channel Islands, Rosslare, Waterford, and Cork routes.

Reminiscences of Myitnge in Burma

The Burma Railways Carriage & Wagon Workshops at Myitnge and the railway colony there some 20 odd years ago were among the most attractive we ever visited. The whole area was well laid out and kept, and the shops turned out efficiently built and repaired stock, largely on the piecework or bonus system, which appeared to give satisfaction to all concerned. There was, moreover, an essentially happy atmosphere about the whole colony, a state of affairs confirmed by the fact that at no time during the 20 years preceding the war was there a strike at Myitnge, as mentioned in an article describing the shops elsewhere in this issue. An important factor contributing to the prevailing contentment among the 1,500 members of the staff was that they were provided by the railway with well-built housing for all grades at nominal rents, and with welfare and social amenities in the shape of a school, hospital, market, and institutes for both Europeans and Asiatics. The bulk of the employees were Indians, as Burmese labour, with the exception of carpenters, was insufficiently skilled and difficult to obtain. There were first-rate Punjabi, Chinese, and Burmese craftsmen in the joinery shop, however, and the labour as a whole was good and well organised. The welfare staff also was efficient and sympathetic.

Rugby Locomotive Testing Station

The joint L.M.S.R. and L.N.E.R. locomotive testing station at Rugby, the construction of which was commenced in 1937, is now approaching completion. The decision to erect this plant was taken to enable research and experimental work to be undertaken in connection with the design of steam locomotives. The cost was expected to be upwards of £150,000, and it was planned to embody the principal features of similar plant established in other countries, notably that at Vitry, in France, but with certain modifications in the light of more recent experience. The buildings were nearly complete at the outbreak of war in 1939; the work then had to be suspended. A contract for the apparatus had been placed with Heenan & Froude Limited, of Worcester, who had sub-contracted with Alfred J. Amsler, of Schaffhouse, Switzerland, for the dynamometric equipment. Work on the plant was resumed at the end of the war. The buildings are being completed, the manufacture of plant is going forward, and machinery is being installed. It is hoped that the dynamometric instruments will be sent from Switzerland during next month, and that the testing station will be in operation about the middle of next year.

Registered Transit for Goods Traffic

An article in this issue describes a scheme introduced recently by the Baltimore & Ohio Railroad whereby the movement of goods in full wagonloads is controlled throughout the journeys, and traders are advised both of the times wagons will be collected from sidings and when they will be available

for unloading at destination. The B. & O. claims to be the first railway to publish the latter information. In many respects, however, this Sentinel Service, as it is called, had a forerunner in the registered transit arrangements for goods introduced between certain G.W.R. stations in 1929, later extended throughout the system, and adopted as from June 1, 1933, by the other British main lines under the title of Green Arrow Service. The Green Arrow facilities, however, were available for small consignments, as well as wagonloads, at a flat rate of 2s. 6d. On the B. & O., the Sentinel Service applies without extra charge to all wagonloads (excepting a few commodities), but is not universal in scope, being operative at the moment between some 30 cities. The latest technique in communications is being used to facilitate the work of the controllers (or "sentinels").

Increasing Unproductive Population in Australia

Great Britain is by no means the only country where thoughtful comment is calling urgently for a halt in the growth of Government departments. In Australia, we learn, there were some 57,700 employees in specific Commonwealth or State departments in January last, and the figure is growing rapidly. It is stated authoritatively that, in one way or another, one in every four of the Commonwealth's comparatively small population works for the Government. The number of departments also is increasing, and to maintain them, vast expenditure and heavy taxation still stand at virtually wartime level. This is so high that the incentive to achievement has been removed almost entirely from industry and commerce, and it is plain that without such incentive efficiency and expansion must go by the board. Unlike the commercial sales manager, who is rated by his turnover, the departmental chief is assessed by the number of employees in his department. This increase in Government servants is the direct outcome of nationalisation and the continuance of wartime controls. It is believed confidently by large numbers of technical and other thinking men in Australia that, though the removal of many controls undoubtedly would result temporarily in unsatisfactory conditions, these would rapidly become normal.

The End of E.C.I.T.O.

AT the end of this month the European Central Inland Transport Organisation (E.C.I.T.O.) will end its functions, after an existence of six months in a provisional form and two years as an official body. Its tasks in future will be carried out by the Transport Commission of the United Nations Economic Commission for Europe. In making this announcement at a Press conference on September 4, Professor E. R. Hondelink, Director-General of E.C.I.T.O., discussed the reasons why this body has been obliged to hand over the tasks it had undertaken. The causes were largely economic, and were to be found in the failure of some of the member governments, notably the Soviet Government, and some of the governments of countries under its influence, to meet their financial obligations.

The annual contribution of the Soviet Union is £50,000, of which the whole amount for the current year and half that for last year is still owing. Poland, Czechoslovakia, and Yugoslavia, also, have been in arrears in their payments, although the sums involved are smaller, amounting to about £12,000 owing from Poland, and £4,000 from Yugoslavia. Requests for a settlement have met with varying responses, the failure to comply being explained sometimes on the grounds of currency difficulties, and sometimes being met with the reply that the expense of restoring the European transport system should be met partly by Germany in the form of reparations. As a result of these defaults E.C.I.T.O. finds itself with considerable debts for the rent of premises and payment of staff. At the present time some £25,000 is owing for the salaries of 160 members of the former and present staff.

Another difficulty for E.C.I.T.O. had been that their Russian and other friends did not like the interference of organisations such as theirs with their national affairs. Throughout the existence of E.C.I.T.O. these countries had tried always to reduce its expenses and budget so that its functions would be limited to those they themselves thought absolutely necessary.

The major and most vital task of E.C.I.T.O. was the allocation of railway wagons where they were most required out of the much reduced stock available at the end of hostilities. E.C.I.T.O. introduced a pooling system, but its policies were hindered by the reluctance of some railways to let wagons leave their own systems. While seizing German wagons, marking them with their own lettering, and refusing to let them outside their borders, they at the same time agitated for the return of their own rolling stock at the earliest possible moment. In face of these obstacles, E.C.I.T.O. succeeded nevertheless in repatriating some 250,000 wagons, but the problem of restoring those that had been overpainted with other markings never was overcome.

At the end of the war there were about two million wagons left in Europe, or half the pre-war total. About 300,000 had been destroyed completely during hostilities. Of the 1,700,000 remaining, 680,000 were unserviceable, and of the other million wagons which were in usable condition, 600,000 were displaced from their home countries. Other problems had arisen in the transport of coal. On many occasions coal trains were loaded up but had to wait because there was no coal to move them. A stage was reached when Austria refused to handle transit traffic unless she received coal to move the trains.

Professor Hondelink said that he was not pessimistic about the future, although there would be disaster ahead if transport failed to fulfil its part in the distribution of supplies in Europe. So far there had been no very serious or lasting bottlenecks caused by transport deficiencies. The Economic Commission for Europe of the United Nations would operate, for at least a year, the temporary machinery set up by E.C.I.T.O. After the end of 1948 the commission's function would be advisory, and concerned with long-term problems. The commission would have the advantage of the services of experts who had been transferred from E.C.I.T.O., and Professor Hondelink was confident that, under the new arrangements in Geneva, they would continue to work as efficiently as they had done hitherto. Another hope for the future was the realisation of the Marshall proposals. If there was any field in which the aid proposed by the Marshall plan was necessary, said Professor Hondelink, it was in the field of transport.

Five years ago the founders of E.C.I.T.O. had warned the Allied Governments that there would be a serious shortage of wagons immediately the war ended. All their predictions had come true. They had estimated that 100,000 wagons would be needed immediately, and that number still was needed. Since those days new Governments had come into office, perhaps with their own views on these matters, but they must remember that the productive capacity available when the recommendation was made had disappeared in the meanwhile.

Freight Progress on U.S.A. Railways

ON May 17 our American contemporary, the *Railway Age*, issued its eighth "Freight Progress Annual." By a stroke of irony, the number appeared when America was in the throes of a freight service crisis caused by shortage of wagons. The situation is due to much the same causes as have hampered British railways during the period of reconversion from a war to a peace footing, but changes in the United States are apt to have more violent effects.

Over there the demand for railway transport has doubled, on the average, every 15 years. Traffic in 1947 is breaking peacetime records and may approach the 1944 wartime peak if prolonged work stoppages are avoided. There are not enough freight wagons to cope with the boom. During the war, new wagons could not be built, and since the war the railway industry has ranked only sixth in the distribution of steel to consumers. The railways installed 3,120 new wagons in December, but they should receive from 7,000 to 10,000 a month during 1947 if industrial developments are not to be stifled by lack of sufficient transport facilities.

Mr. S. M. Felton, President, American Railway Car Institute, contributes an article to the Annual on the subject of "How much railroad plant is needed?" He points out that steel output has doubled in 25 years and is now at the rate of 85,000,000 tons a year. During the first quarter of 1947, electric power was produced at about 2½ times the 1930 volume and that means a large increase in both materials and

finished goods to be moved by rail. Yet 500,000 fewer freight wagons are available than were in use in 1930. Mr. Felton's conviction is that the States "need to go faster in post-war rehabilitation of the railroads." The improvement programme so badly wanted—after wartime wear and tear—cannot be undertaken out of current railway income, and the first need is, in Mr. Felton's opinion, that the railways "be given the conditions necessary for them to secure earnings attractive to private investors."

Other articles in the Annual emphasise the seriousness of the transport situation. The burden of their argument is that the railways should be able to spend \$2,000 million a year for equipment and materials. If they are to do so, an average net railway operating income of \$1,500 million is essential. For the first quarter of 1947 that income was only \$174 million. The Eastern lines, including the Pennsylvania, once led the field, but are now lagging behind the railways in the Southern and Western districts because of altered trends of industrial expansion. This tendency will be accentuated by the order of the Interstate Commerce Commission that class rates applied by the Eastern roads should be increased by 10 per cent., while class rates in other territories, except the Mountain-Pacific area, are lowered by 10 per cent.

The Commission's decision is a preliminary step towards the establishment of a uniform classification to apply throughout the country, together with a revised scale of class rates. It seems doubtful whether the existing rates structure can be adapted to suit the economic changes which have occurred during the past seven years. This question is the text of an article by Mr. G. Lloyd Wilson, Professor of Transportation & Public Utilities, University of Pennsylvania. The Professor does not advocate any one system of rate-making as desirable, but feels that a fresh inquiry into transport prices, without undue regard to precedents, might prove profitable. Evidence can be culled from other pages in the Annual to the effect that rising costs in road and water transport are diverting traffic to rail and that some of this business is passing at unduly low charges.

America would not appear to be any nearer than we are to solving the problem of reconciling rates by different types of transport. Neither do we know of any consultative body in the States corresponding to our Road-Rail Central Conference. Yet the rates question lies at the root of all transport development and cannot be shirked indefinitely either under State ownership, which is likely to come about next year in this country, or under private ownership, of which America is the last citadel of importance.

In the meantime, the U.S.A. railways are forging ahead with improvements in freight services. The Annual tells us that 25 railways have 75 separate "overnighters" giving first-morning delivery at destinations 300 miles or more distant. The longest of these through runs covers the 510 miles between Chicago and Memphis on the Illinois Central. Transcontinental freight schedules have been cut by one day on the Santa Fe and other railways serving the Pacific coast. Some lines are schooling their employees in the art of handling freight safely and expeditiously. One experiment revives a form of organisation which has been discarded by our two largest railways. The New York, New Haven & Hartford has set up a merchandise department, with charge of goods station working, under the jurisdiction of a general merchandise manager, who has the assistance of five district merchandise managers and is responsible for the net freight income. The reorganisation has been carried out because on the New-haven "smalls" account for 14 per cent. of total freight revenue, but entail from 70 to 75 per cent. of expenses at goods stations and yards.

The Annual furnishes ample statistics to show that, over the period of 27 years from 1920 onwards, a great advance has been accomplished in the art of railroading. The freight train in 1946 was 42 per cent. longer and 62 per cent. heavier than in 1920. Each hour on the road it produced about 150 per cent. more gross product and 135 per cent. more net product. These improvements led to a decrease of 7 per cent. in unit revenue per ton per mile during the 27 years under review, while working expenses "sky-rocketed." The statistical analysis of railway operating results will repay careful study, and, indeed, there is not a dull page in the whole number.

Heat Transfer in the Locomotive Boiler

A RATIONAL method for estimating the total heat absorbed in a locomotive boiler, by relating it to the weight of gases of combustion and to an assumed rate of heat release, is described in a brief but extremely useful paper recently published by the American Society of Mechanical Engineers (Railroad & Heat Transfer Divisions). The author of the paper is Mr. Lawford H. Fry, Director of Research at the Steam Locomotive Research Institute, New York, whose international reputation as an authority on locomotive design gives an added interest to this method of computing heat transfer.

Mr. Fry begins his paper with a pulverising attack on certain advocates of other motive power, which should cheer those who favour the retention of the steam locomotive on railways and will bear repetition. "The locomotive boiler with its water-enclosed firebox and its firetube barrel still follows the lines laid down by George and Robert Stephenson when they built the *Rocket* in 1829. This survival is sometimes criticised by advocates of other forms of motive power who think that we should be modern at all costs. Actually the retention of the locomotive-type boiler is the result of hard commonsense supported by the inherent advantages of the arrangement. Change in design is not necessarily good engineering. Retention of a circular form for a wheel is still good practice." Moreover, Mr. Fry, who is in a better position to know the facts than a good many engineers, asserts that "study of the details of operation of the locomotive boiler leads inevitably to recognition of the fact that in its modern form the locomotive boiler is an extremely compact and efficient mechanism for the production of steam." Over the normal range of operation, the efficiency of heat absorption, then, can be regarded as generally satisfactory.

The whole action of the transference of heat from the process of combustion in the firebox to the boiler heating surfaces may be regarded as occurring in two separate operations: (1) that occurring in the firebox, where the heat released is taken up partly by direct radiation and partly by the heat passing into the tubes and flues; and (2) the heat transfer in the tubes and flues themselves, some of the heat being absorbed by the evaporative and superheating surfaces whilst the remainder passes through the smokebox in the gases produced by combustion.

The aim of Mr. Fry's paper is to give formulae which represent these two operations and to show how to combine them, so that they can be made to give the quantity of heat absorbed by a given size of boiler under given conditions. The vital boiler dimensions in such calculations are the area of the firebox heating surface and the number, diameter, and length of flues, tubes, and superheater elements, whilst the vital operating conditions are the rate of heat release and the weight of the gases of combustion produced per hour.

The paper makes use of the conception of an "equilibrium temperature" in the firebox, that is, the temperature at which the sum of the heat radiated to the firebox surface and of the sensible heat carried by the gases at that temperature is just equal to the total available heat released by combustion. The whole paper is built around this conception and cannot be separated from it. The "equilibrium temperature" is computed from the rate of heat release, the rate of gas production, and the area of the firebox-heating surface. The combustion gases are assumed to enter the tubes and flues at the equilibrium temperature and to lose temperature at a rate given by a double-logarithmic formula which takes into account the gas flow, the gas-swept perimeter and the free gas area of the tubes and flues, the temperature of the receiving surface, and the length of the flues.

Four different locomotive boilers have been selected and their trial results have been analysed and tabulated in the paper. Two of these boilers have superheaters with four-tube elements in each flue; two-tube elements are used in the others, which naturally have smaller-diameter flues. The author's next step is to compute the firebox and smokebox temperatures for these four boilers and to compare them with results actually obtained; agreement is found to be generally good. The data are then rearranged, again in tabular form, to show how the heat released in the firebox is distributed. This distribution is effected under four headings: heat absorbed in firebox; heat absorbed in flues, tubes, and superheater; heat lost in sensible heat in smokebox; and heat

lost in latent heat in smokebox. As all these quantities depend vitally on the equilibrium temperature, means are given for computing that essential factor. Finally, space is devoted to the assessment of heat transfer by convection in a tube or flue bundle, calculations being based on the temperature drop in passing from firebox to smokebox. The somewhat empirical character of this section of the calculations, especially the double-logarithmic formula, is clearly realised by the author, who forestalls criticism by quoting Fessenden's observation that the real justification of the formula rests not so much on the rationality of its development, as on the manner in which it satisfies experimental data gathered from many different sources. Expressed in the simplest way, the assumption is that the loss of heat from an element of gas passing along a tube takes place in accordance with the exponential formula for a damped process—hence the logarithmic character of the formula eventually obtained.

Examination of the tables of actual and calculated figures indicates that the superheater with twin tubes in each flue shows up well as compared with the four-tube element type. The equivalent firebox evaporation is higher, for a given rate of firing (dry coal as fired), and a greater percentage of heat is absorbed in both firebox and flues, and the losses due to sensible heat and latent heat in the smokebox are noticeably smaller. In 1925 the L.N.E.R. put into service two boilers of this type in which each element comprised only two tubes (that is, one return bend) in each flue. There were very few ordinary firetubes, practically all the tubeplates being occupied by the superheater flues. These engines were a 2-8-2, No. 2394 (now scrapped), and a 4-6-2, No. 2562; but we cannot recollect having seen any published data about the performance of these boilers. In view of Mr. Fry's paper, the relevant figures, compared with those for the standard Pacifics, would have been very interesting.

Sir Alan Mount's Annual Report

NOBODY in the railway world will be disposed to dispute the description of "difficult and disappointing," applied by Sir Alan Mount, Chief Inspecting Officer of Railways, to the year 1946, in his annual report on the accidents which occurred during that period. It has been apparent for some time to responsible persons, both on and off the railway, that, as he well observes, "the whole economy of the country will suffer if the railways are allowed to run down any further."

A very serious position has, indeed, been reached and we have been fortunate in maintaining the safety of operation at as satisfactory a level as the report discloses. "Little, if any, headway was made," it says, "in overtaking arrears of maintenance or in replacing rolling stock, and it was broadly a case of continuing a policy of 'make do and mend.' Recovery was impeded by shortages of material and labour in all departments on an increasing rather than a diminishing scale. Examples affecting speed and safety of operation are that, by the end of the year, arrears in renewals of rails in running lines increased to some 400,000 tons and of sleepers to 10 millions."

When one reflects that this situation is typical of that prevailing, in varying forms, among other classes of railway equipment, it is not surprising that the disappointment felt by those responsible for running the railways should be accompanied by very considerable anxiety. Nevertheless, Sir Alan is able to record that the total fatalities in all movement on rail during the year were lower than in any of the six previous years, and nearly 23 per cent. less than the peak in 1941.

The report is issued under the arrangements introduced on January 1, 1946, under the Railways (Notice of Accidents) Order, 1945, and is framed on the pre-war basis, rendering a direct comparison with earlier years again possible. The few changes made in the system of reporting in force up to 1939 are of such a character as not to disturb materially peace-time comparisons. Personal injuries are now segregated under "serious" and "minor," the former being defined as meaning "amputation of limbs, a fracture or dislocation, internal injuries, loss of an eye, burns or scalds, or any other injury of similar serious character likely to cause protracted disablement." The table, reproduced on page 286, analysing the various causes of train accident, shows that there were 1,237

such accidents, of which 364 were collisions, 319 derailments, 410 cases of running into obstructions (including 211 animals struck by trains on passenger lines), 101 fires in trains, and 43 miscellaneous. Failure of the human element accounted for 526 of the 1,237 accidents, failure of train crews being primarily responsible for 157 collisions and 73 derailments, and failure of signalmen for 38 and 29 respectively. The cases attributable to defective track and/or signalling apparatus amounted to 65.

These 1,237 accidents resulted in fatal injuries to 34 passengers, 9 servants, and 17 other persons, compared with 45, 17, and 13 in 1945.

Twelve Formal Inquiries

Twelve train accidents were the subject of formal inquiries, and eleven of them have been dealt with already in our columns. The first referred to the very unusual accident at Lichfield on the opening day of the year, when a signalman believed that he had set the road properly; but frost had jammed the bolt securing the points, and springing of a down rod under the signal box enabled the facing point lever to be pulled without the points responding. This left the signal lever free to be pulled for the movement contemplated. A fast fish train, which received clear distant signals, was diverted into a platform line and collided with a standing passenger train, with disastrous results. The condition of the home signal at the points was disputed, but it was thought that it probably was held correctly at "danger" by the detector and overlooked by the oncoming driver.

Another unusual accident occurred at Edgware on July 27, 1946, when an electric train failed to stop and ran into buffer stops. The motorman was dying of coronary thrombosis. He had applied the brake correctly when approaching the terminus, but his last semi-conscious act may have been to release it and the dead-man's control, under the erroneous impression that the train had stopped. This accident raised the question of medical examination of all footplate staff at regular intervals.

Near an intermediate signal box at Brownay, on January 5, 1946, a freight train became divided at night at the top of a long falling gradient. The signalman stopped the front part, hoping that a rising gradient would stop the rear portion, but a collision took place and the wreckage fouled the path of an express, for which it cleared the signals irregularly by fouling the wires. Recommendations were made as to more rigid inspection of drawgear of old wagons, and for fresh consideration of the use of flares, in addition to detonators, for alarm purposes.

At Potters Bar, on February 10, 1946, a signalman reversed a facing crossover between the bogies of the first coach of a local train, intending actually to prevent it from colliding with buffer stops. The engine, however, did collide with the stops, but the coaches followed the crossover and were forced foul of both main lines. An express in the opposite direction collided with the wreckage, and another in the same direction as the local train did so at slow speed. The driver of the local train had taken a main-line signal as applying to him, but it was considered that he had been misled to some extent by the clearing of another signal in rear and by the arrangement of the signals near the points. Recommendations were made and accepted regarding their siting, for certain track-circuit controls, and the reconstruction of the station.

The accident at Mottingham on March 19, 1946, was caused by a signalman, whose attention probably had been distracted by telephone calls, clearing his signals for an electric train, having forgotten a light engine, the driver of which failed to carry out Rule 55. The signalman had omitted to use a reminding device, and the excuses offered by the engine-crew could not be accepted.

Two derailments, one at Hatfield on July 15, 1946, and the other at Marshmoor, on November 10, involved the question of the over-sensitiveness to track irregularities of a 2-6-2 type of mixed-traffic engine. In the Hatfield case the irregularities had arisen from imperfect levelling after renewal a fortnight before; and at Marshmoor from wet and unstable formation which had given trouble in maintenance for some time. The track defects were considered to have induced excessive flange forces at the leading coupled wheels, and the accidents led to spring control being applied experimentally to the leading pony axles of a number of these engines in place of swing links; and

Primary causes	Type of accident					Totals
	Collisions	Derailments	Running into obstructions	Fires in trains	Miscellaneous	
1. Failure of train crew (including guard) :—						
(a) Passing signals at danger	39	21	26	—	—	86
(b) Other irregularities or want of care	118	52	9	1	7	187
2. Failure of signalman :—						
(a) Irregular block working	13	1	—	—	—	14
(b) Other irregularities or want of care	25	28	6	—	—	59
3. Failure of train crew and/or signalman and/or other staff	30	16	7	1	—	54
4. Failure of other staff in operating departments (excluding faulty loading : see 10 below)	48	16	51	1	10	126
5. Accidental	1	3	2	—	—	6
6. Defective drawgear	2	32	—	—	1	35
7. Defective stock, other than drawgear	3	35	2	11	3	54
8. Defective engines	—	22	1	1	2	26
9. Defective track and/or signalling apparatus	8	52	5	—	—	65
10. Faulty loading	2	14	1	—	1	19
11. Due to snow, landslides, flooding, etc.	2	2	9	—	1	12
12. Miscellaneous	75	25	291*	85	18	494
Totals	364	319	410*	101	43	1,237

* Includes 211 animals struck by trains on passenger lines

the application of a more rigorous policy of speed restriction in respect of weak places on the track.

At Catford, on September 20, 1946, an express, travelling at about 55 m.p.h., became derailed, and some of the coaches fell down a 20-ft. embankment, fortunately after speed had been considerably reduced. A very peculiar feature of the accident, which was brought about by irregular cant and alignment on a curve, perhaps accentuated by wet weather, was that the engine tender framing and body of the leading coach were pierced by a continuous 210-ft. length of rail, torn up as the engine passed over it.

Another derailment took place at Byfleet on December 27, 1946, when an express, travelling at 60 m.p.h. on straight track, was completely derailed. This was attributed to defective maintenance of track after an abnormally wet season. Fortunately none of these derailments was attended with a serious casualty list, neither was the one at Garstang, in November, 1946, when a rail had broken. This rail was overdue for renewal, its section having become reduced from 95 to 74½ lb. per yd., compared with the minimum standard of 79 lb. for the line concerned.

A mistake in block working, to which the failure of an early type of fireman's call-pillar apparatus partly contributed, caused a collision at Stafford on December 7, 1946; and the application of the "stop and proceed" rule with automatic signals was involved in the collision at Stratford, on December 5, 1946, when a tube train had to pass a signal at "danger," and should have been driven cautiously, the motorman being prepared to stop short of any obstruction. He appears to have expected only one train to be standing at the next signal ahead, but there were two. He and two signal department employees, travelling with him, were injured so seriously that they had not been interviewed by the time Sir Alan was writing the present report.

Accidents to trains of every kind totalled, as stated, 1,237 in 1946, which compares with 745 and 796 for the 5-year periods 1935-1939 and 1930-1934 respectively. Accidents to, or failures of, rolling stock and permanent way totalled 5,162, compared with 4,149 and 5,772 for these pre-war periods. Collisions and derailments considerably exceeded the averages for the 15 years 1925-1939, and while a new method of reporting renders the broken-rail figures for 1946 not strictly comparable with previous ones, figures abstracted on the old basis show that the incidence of breakage has nearly trebled compared with pre-war, due to continuing shortages of materials and labour for track renewals. This deterioration was made particularly evident in the Garstang derailment.

Analysis of the failures of coupling apparatus shows that 3,689 occurred on goods and 610 on passenger trains, the chief liability to failure lying in weakness of drawgear, which accounted for 82.13 per cent. of the total for goods, and 92.62 per cent. of the total for passenger trains. There was a considerable improvement in the case of coupling failures with double-headed trains, compared with the immediate pre-war period.

Turning to level-crossing accidents, we find that an inquiry was held into the serious one at Balmuckety on July 25 1946,

when the defective condition of the brakes on a bus caused it to break through the gates; it was struck by a train and 10 of the bus passengers were killed. This case accounted for the whole of the fatalities arising from the three accidents of this class which occurred during the year. Altogether there were 157 collisions with gates or vehicles at public road and occupation crossings, compared with 172 for the period 1935-1939, but 8 only were attended with fatal results.

Total casualties for all classes of crossing and user amounted to 45 killed and 62 injured in 63 accidents, and, but for the unfortunate case at Balmuckety, the year was remarkable for the low incidence of harm to persons. Out of the 107 casualties, 41 were pedestrians, of whom 20 were killed and 8 injured at occupation and footpath crossings.

Other than Train Accidents

During 1946, 319 inquiries were held into accidents, other than train accidents, involving fatal or other injuries to 343 persons, nearly all railway servants; the remainder were principally contractors' servants and persons at work or transacting business on companies' premises. As a result, 44 recommendations were embodied in the reports, of which 35 were adopted, 2 were not adopted, and 7 are still under consideration; in addition, a considerable number of verbal suggestions were made and accepted.

Movement accidents to passengers were, as usual, mainly due to misadventure, want of caution, or misconduct, and there is practically nothing the railways can do to improve the situation. Serious interest, however, continues to attach to accidents to men working on the track, almost invariably of a serious nature, and 1946 was "a regrettably bad year," says the report, "perhaps partly attributable to considerable changes in personnel. There were 62,000 permanent-way men and signal and telegraph staff in March, 1946, a net increase of 5,000 during the year; this compares with a total of 64,700 in 1938. Some 2,400 returned from the Forces and 10,600 entered the service for the first time." Casualties totalled 113, as compared with the average of 78 for the 5-year period 1935-1939, accidents amounting to 99 instead of 73.

Want of care accounted for 57 per cent. of the casualties due to men being struck by trains while working on the permanent way, compared with 52 per cent. for 1935-1939. Formal inquiries were held into all cases. "In view of the upward trend of casualties," says Sir Alan, "it is satisfactory to note that the number due to inadequate protection has not increased. This reflects credit on gangers or men temporarily in charge (who are responsible for providing protection where necessary) as they have been working under difficult conditions throughout the year, owing to shortage of staff."

Sir Alan again dwells at length on the absolute necessity for strict obedience to Rule 234 (a). The increasing disregard of it during the year led to special action being taken to bring it to notice by issuing it in poster form in cabins and depots, and publishing statistics and accounts of accidents. Supervisory staff received instruction to give the matter special attention. "There is considerable difficulty," the report goes on to say, "in counteracting want of individual care in this occupation, as most of the men live and work in isolated places and

Annual average, 1915-19	Annual average, 1920-24	Annual average, 1925-29	Annual average, 1930-34	Annual average, 1935-39	Annual average, 1940-45	Particulars	Year 1945	Year 1946
898 in 1919	1,009	941	796	746	388	Accidents to trains	363	1,237
11,452 in 1919	11,153	9,141	5,772	4,129	160	Accidents to, or failure of, rolling stock or permanent way	161	5,162
K, 174 L, 1731 I, 3600 J, 341 K, 101 L, 175	K, 92 L, 2577 I, 3518 J, 248 K, 67 L, 136	K, 91 L, 3733 I, 3267 J, 210 K, 67 L, 158	K, 74 L, 4394 I, 2592 J, 183 K, 51 L, 146	K, 86 L, 5342 I, 2576 J, 198 K, 54 L, 120	K, 141 L, 256 I, 455 J, 254 K, 82 L, 34	Casualties:— Passengers Servants Other persons	K, 134 L, 215 I, 415 J, 238 K, 35 L, 64	K, 120 L, 204 I, 793 J, 248 K, 56 L, 88
616	6231	368	7,132	338	477	Totals	436	1,053
2,065 in 1919	1,848	1,661	1,612	1,740	1,210	Passenger journeys originating, including season ticket holders (millions)	1,371.8	1,264.0
not available	322	320	288	299	450.7	Railway companies	561.5	589.1
"	17,457	17,562	16,060	17,230	23,844	L.P.T.B.	266	262
590,702 in 1913	698,756 (1921-1924)	678,738	602,288	592,365	603,803	Freight tonnage (millions): excludes free hauled from 1940	22,023	20,639
334.2 in 1919	368.7	401.3	416.2	411.8	356.3	Ton-miles (millions) (estimated from 1942 to 1945, main-line companies only)	622,369	652,253
123.5 in 1919	121.5	122.7	112.8	115.0	25.6	Servants employed (March)	358.3	373.5
not available	28.3	28.9	26.8	29.4	122.8	Passenger and freight-train mileage (millions):— Railway companies L.P.T.B.	25.3	27.1
					36.8	Shunting mileage (millions)	119.5	116.0
					1.2	Light-engine mileage (millions)	37.4	35.7
					1.9	All casualties per million train-miles:— Killed Injured	1.1 1.7	1.0 20.2
					(seriously only)		(seriously only)	

cannot be approached collectively. Many spend much of their service in the same gang, and may reach senior positions without having had practical experience of safety procedure adopted elsewhere. For that reason inspectors bear heavy responsibilities and should not hesitate to offer safety advice to gangers, correcting them when they find that risks are being taken. No opportunity is lost at inquiries of emphasising the need for constant vigilance during work on the track, but unfortunately the scope of this advice is limited to those who have either witnessed or been closely associated with an accident. Accident reports, on the other hand, have wider scope, and their educational value should therefore be borne in mind, every opportunity being taken to disseminate the lessons they contain as a warning to others."

Fatalities to staff walking or standing on the line, or when proceeding to and from work, were 83, slightly lower than in recent years, but comparing badly with the pre-war average of 66. Want of individual care was again responsible for the bulk of these accidents, which apply to all grades of railwaymen and may be divided into two categories, namely, those occurring at stations, many avoidable by the use of footbridges and subways, and those affecting men moving about the tracks in connection with their work and/or when they were going on or off duty. Presumably, as when at work, a man moves aside to avoid one train and stands in the path of another. The recommendation is again made that, when the next revision of rules is taken in hand, the instruction conveyed in Rule 234(a) should be embodied, possibly more concisely, in clause (b) of Rule 11, intended for all employees whose duties compel them to be on or about the lines.

Shunting Accidents

Shunting accidents resulted in 36 fatalities, against 23 for 1945, and 1,581 cases of injury, compared with an average of 1,313 in 1935-1939. Seventeen of the fatalities and 89 cases of injury were due to men standing or stepping foul of vehicles, a type of accident avoidable only by exercising care and judgment. Seven fatalities resulted from ground staff thoughtlessly moving foul of other trains when signalling to enginemen, and two others from setting points incorrectly and failing to notice shunts approaching on the lines on which they were standing or walking.

Coupling accidents can be guarded against to a certain extent by rules, stricter compliance with which would reduce their number materially. Accidents caused by men coming in contact with vehicles on adjacent lines emphasised the need for leaving ample clearance at converging points in sidings, as directed by Rule 111(e). The reintroduction of travelling post-offices led to two cases of injury to enginemen due to contact with lineside apparatus. The special chequered warning boards have been reinstated, and enginemen should make themselves familiar with the location of every apparatus.

We reproduce, in our usual form, the table recording all movement on rail. Liability to casualty to passengers in train accidents was 1 killed in some 55 millions carried, and 1 injured in 3.5 millions; and to servants it was 1 killed in 44 million passenger and freight train-miles worked, and 1 injured in 4.7 millions. The rise and fall of the annual averages of deaths in train accidents since the 1914-1918 war are given by the following figures:—

1920-1924	...	25	1941	...	76
1925-1929	...	38	1942	...	37
1930-1934	...	25	1943	...	14
1935-1939	...	39	1944	...	34
1940-1945	...	48	1945	...	75
			1946	...	60

"While the run of exceptional accidents early in 1946 at Lichfield, Brownay, and Potters Bar," observes Sir Alan, "cannot be ascribed . . . to any general and remediable cause, the derailments at Catford, Marshmoor, Garstang, and Byfleet in the latter half of the year showed that the delayed effects of permanent way maintenance arrears were being felt to an increasing degree. It thus became necessary to take the unusual step of imposing special speed restrictions, and unfortunately there appears to be little hope, quite apart from the deterioration in quality of coal, of a return in the near future to pre-war standards of high-speed operation, for which British railways have been such an efficient instrument. The foregoing factors all have a psychological effect on the staff, and this reacts on the services they render."

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Power Reverse Gears

Hampshire. August 18

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I am surprised that Dr. Tuplin should venture an opinion in your August 15 issue that power reverse is unnecessary and undesirable in main-line engines. Would he suggest that the wheel-lowering device on a large aeroplane should be hand-operated since it is used only at the beginning and end of a flight?

The obvious answer is that all heavy manual work which can be effected by power should be so performed, and, given a good power reverse gear, all engines should be so fitted.

Stirling, I believe, used it first, and his version still gives excellent service on the Eastern Section of the Southern Railway. Its outstanding feature is its accessibility, which in turn ensures that it is properly serviced. Failures of this gear are rare and its operation simple and effective.

Yours faithfully,

OLD ASHFORDIAN

Indian Independence Day Poster

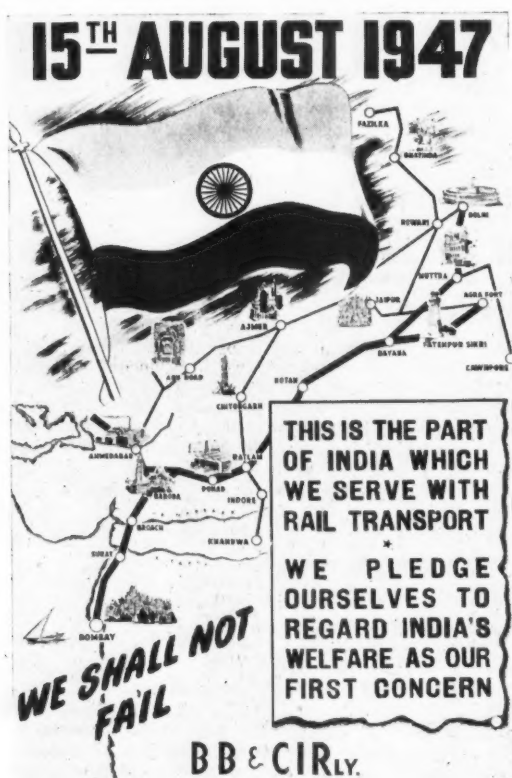
B.B. & C.I. and G.I.P. Railways,

Church Gate,

Bombay. August 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I enclose a photograph of a poster that was displayed on the premises of the Bombay, Baroda & Central India Railway in connection with the recent Independence Day celebrations. This railway would be much obliged to you if you could



Bombay, Baroda & Central India Railway
Independence Day poster

find space to publish it in your paper. It would, I am sure, be of considerable interest to railwaymen in England, and, of course, in India and possibly elsewhere.

The flag of India is shown at the top of the poster. It is a horizontal tricolour of deep saffron, white, and dark green in equal proportions, and the wheel is in navy blue. The

wheel is known as the Asoka Wheel, after Asoka, a famous Indian Emperor who reigned from 272 to 264 B.C.

The map shows the broad- and metre-gauge lines, and the sketches depict features of famous places on the railway. The building shown at Bombay is the headquarters office of the Railway. The B.B. & C.I.R. is nearing its century. Its first sleeper was laid in 1856, and the first train ran in 1860.

Yours faithfully,

E. J. AUSTEN,
Public Relations Officer

The Conduct of Accident Inquiries

Overend Press Agency, Greengates,
Bradford. August 20

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In my utter ignorance will you please explain to me when is a public inquiry not a public inquiry, inasmuch as the daily newspapers, in reference to the Balby accident inquiry, said that "further evidence was taken in private." Surely an inquiry of this nature dubbed "public" should be public and not parts of it shrouded in mystery. There is too much of this kind of thing nowadays, and the travelling public quite rightly wonders what there is to conceal, and is not a little suspicious that the whole affair is what in the United States is termed "phony."

Also, was not a little too much time devoted to the fact that the first train had difficulty in starting? This was seized on with much headline splashing by the daily and evening Press, whereas primary inquiries should have concerned the over-taking train and as to whether the stationary train was protected fully by adverse signals or not. I venture to suggest that in the light of subsequent evidence it was perhaps a god-send that the first train did not get away, as one can only suppose that it would have made the usual stop in Doncaster Station, when it most probably still would have been run into by the following train, with even far more drastic consequences than did occur.

Yours faithfully,

H. LESLIE OVEREND

[Officers carrying out these investigations are appointed to hold "an inquiry," and its conduct entirely rests with the Officer concerned. He may decide to hear evidence in public or partly in public and partly in private. The inquiry is held for technical reasons, to suggest means for preventing recurrence of the accident, not for determining any legal responsibility. It is customary to open all inquiries in public, but should circumstances be such that the men concerned may be involved in criminal proceedings, some or all of the evidence may be heard in private. In any case, much of an inquiry comprises inspection on the site by the investigating Officer, which is necessarily carried out in private. The publicity which is so desirable is attained by the fact that the Inspecting Officer's report invariably is published in full as soon after the accident as is practicable, but this is not done until any criminal proceedings are concluded or there is no further prospect that they will take place. The Minister of Transport has the power, nevertheless, to order a more formal type of inquiry to be held, should he consider the circumstances demand it, and this must take place in open court, the witnesses being on oath, in which case, of course, the rules of evidence must be strictly observed. The need for holding such a Court of Inquiry has been felt only on a few occasions.—Ed., R.G.]

Train Services from London to the Midlands

"Merok," 22, Barnhill Road,
Wembley Park. August 25

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With the reductions in passenger services made earlier in the year, both on the Midland and Great Central routes from London to the Midlands and North, and the possibility of further curtailments to facilitate freight movement during the coming winter, it would appear an opportune time to examine in some detail the service at present provided, particularly that from Marylebone, which appears capable of considerable improvement in general make-up.

Whilst the L.M.S.R. Midland Division services have suffered curtailment from the level attained last October, which closely approached pre-war frequency and timetable layout at, under present conditions, a high standard of speed, such curtailments have been mainly in combination of trains, without serious loss of facilities. By comparison, the present Marylebone service appears both ill-timed in overall speed and general structure, with services which often run at similar times to corresponding trains from St. Pancras, and provide an inferior service to Leicester, Nottingham, and Sheffield, the principal Midland towns served.

The longer journey times by the Great Central route are mainly due to the increased number of stops made, which in the case of halts at such places as Brackley and Woodford seem hardly justified from the traffic viewpoint, especially as these places are served by intermediate services. At one time, connections made at Woodford could be cited as extenuation for halts of important trains there, but this is hardly so today. On the other hand, the important Midland centre of Chesterfield, with a population many times that of the two places just mentioned, receives a call from one Manchester-Marylebone train, in the up direction only!

The only principal trains on this route which appear to have any real appeal to through traffic are the 6.15 p.m. down and the 7.38 a.m. up from Sheffield, and the former only since the withdrawal of the corresponding 6.40 p.m. from St. Pancras, which gave a considerably faster service. Of the other trains, the 10 a.m. down to Leicester and Sheffield is a poor exchange for the 9.55 from St. Pancras; as is the 12.15 p.m. from Marylebone for the 11.50 from St. Pancras, which also provides a slow connection to Nottingham from Trent in shorter time than the Marylebone train. Similar remarks apply to the 3.20 p.m. from Marylebone, when its service to Nottingham and Sheffield is compared with that given by the 3.15 from St. Pancras. Similar conditions apply to a lesser degree in the up direction, but only on account of withdrawals of Midland-route trains, with a considerable worsening of facilities.

Another recent curtailment was that, north of Sheffield, of the through services between Marylebone, the Midland towns, and Bradford, which provided a useful connection to Huddersfield, a town which, for its size, is not over-favoured with ser-

vices to the Midlands and London. Possibly these trains might have had a better appeal had they been routed via Halifax, where additional services of this nature would have been useful. Whilst the running of complete through trains on this service from Marylebone may not be justified, it would seem that the running of two or three through coaches on this route, say twice daily, attached to the Marylebone-Manchester trains, would meet a considerable need without additional mileage.

Recalling the use to which the Great Central main line was put at times to handle excursion and special traffic to the North-East Coast before the war, one wonders whether, in view of the heavy occupation of the Great Northern main line with coal and other mineral traffic, the possibilities of diverting certain main-line trains via the Great Central line, with the advantage of giving direct facilities to the large Midland towns, served only by connections at present, have been considered adequately. Admittedly the G.C. line is a poor exchange from the distance and grading aspects, but the largest main-line locomotives are permitted to run over it.

In this connection the withdrawal of the day Bournemouth-Newcastle and Swansea-Newcastle services, with their through communication from the large Midland towns to the North East, should be mentioned, seeing that, in the cases of Leicester and Nottingham, no through service to the North East now remains. One finds it hard to understand why these services should have been withdrawn, although their mediocre level of speed made them little faster than connections via Grantham, Retford, Doncaster, and the G.N. main line.

Yours faithfully,
G. W. CARPENTER

Publications Received

The Railwaymen's Year Book, 1947-48. St. Albans, Herts. Railwaymen's Publications Limited, 12, Roland Street. 8½ in. × 5½ in. 128 pp. Fully illustrated. Paper covers. Price 2s. 6d., 2s. 9d. post free, or 2s. 3d. per copy for 20 or more.—The more important features included in last year's edition of this illustrated reference book for railwaymen, have been retained and brought up to date in the second edition. A further 32 pages has been added, and there are several new features, among which are a condensed version of the Transport Bill, and reviews of some of the British railway's post-war schemes, and educational schemes for their staffs. The railway companies and the railway trade unions again have supplied information and assisted in compiling the book, and there is a foreword by Sir Frederick J. Burrows, Governor of Bengal, and a former President of the N.U.R.

Timetable and Duty Schedule Compilation: Road Passenger Transport.

By J. F. Turner. London: Sir Isaac Pitman & Sons Ltd., Pitman House, Parker Street, Kingsway, W.C.2. 8½ in. × 5½ in. 107 pp. Price 10s. 6d. net.—Within recent years the preparation of timetables for motorbus services, and the closely inter-related subject of the compilation of duty schedules, have assumed an importance and a complication which would be amazing to those whose experience of the industry was based on practice of even 25 years ago. At that time, the straight double shift was the normal practice. Shorter working hours, reductions in the total period of a day over which a man's duty may be spread over, varying provisions of local labour agreements, and so forth, have so added to the complication of the work that the compilation of timetables is a job for an expert, and one moreover on whose skill and ability rests not only the well-being and happiness of drivers and conductors, but also to a considerable extent the fortunes of the undertaking. Until now, the subject has been without literature, with the exception of one or two papers given before

societies particularly interested in passenger road transport. Mr. Turner has prepared a thoroughly sound work, based on some forty years of experience, and the passenger road transport industry should be grateful to him for his labour in preparing a volume which doubtless is destined to be the standard work on the subject.

The Development of the Railway Locomotive, 1880-1946.

By R. W. Kidner. Chislehurst, Kent: The Oakwood Press, 30, White Horse Hill. 7½ in. × 4½ in. 38 pp. + 12 pp. plates. Price 6s. net.—The present work is Part 4 in the short history of mechanical traction and travel by the same author, and continues the page and plate numbering of Part 3, "The Early History of the Railway Locomotive, 1804-1879." It gives a concise summary of broad- and narrow-gauge steam locomotive development since 1880, with notable examples of locomotive rebuilding, and a chapter on electric and internal-combustion locomotives is included. The plates are reproductions of photographs representative of progress in design during the past 60 years. In addition, the text is illustrated with 67 thumb-nail sketches, similar to those that characterise the earlier books in this series. These sketches might well have been drawn to a larger scale, and are a distinctly disappointing feature.

The Basingstoke & Alton Light Railway, 1901-1936.

—By Edward C. Griffith, Farnham, Surrey: Published by the author, 23, Downing Street. 8½ in. × 5½ in. 28 pp. Price 3s. 6d.—This light railway, which was the first to be sanctioned under the Light Railways Act of 1896, had an interesting career, beginning with competition as to the occupation of territory between the Great Western Railway and the old London & South Western Railway. Having won the fight, the L.S.W.R. built the line, but seems to have lost interest in the development of its traffic, to the detriment of the cause of light railways in general. The line was closed and dismantled during the 1914 war, and not relaid until parliamentary pressure was

applied. Its second life was not long, and passenger traffic was abandoned in 1932, although there had been no road competition. The whole story is admirably told in this brochure, which contains a gradient profile, and is well illustrated with half-tones, but unfortunately has an inadequate map. The standards of writing and production are good, and are in striking contrast to much of the carelessly turned-out ephemeral railway enthusiast literature of today.

Chemical Seasoning of Timber.

Published by the Timber Development Association Limited, 75, Cannon Street, London, E.C.4. 7½ in. × 5 in. 26 pp.—This little book explains the purpose of chemical seasoning. In the past, the drying of timber of large cross-section has presented serious difficulties in the form of "checking" and splitting, and has had to be carried out very cautiously in consequence. Recent experimental work has shown that chemical seasoning allows of more drastic kiln-drying schedules with both large and smaller timber sections and the time involved in seasoning is considerably reduced. The chemical used is Urea, and by impregnating the surface cells of the timber with it—preferably by the dipping method—it prevents surface shrinkage and, therefore, checking. Results of the latest experiments in this country are given in the two appendices to this booklet, and are distinctly favourable. Further tests are to be undertaken, it is understood, by one of the main-line railway companies in co-operation with Imperial Chemical Industries on 3-in. oak slabs, and the outcome will be particularly valuable.

Twist and Tap Drill Data.

—A convenient pocket-size publication has been issued by the Sheffield Twist Drill & Steel Co. Ltd., Summerfield Street, Sheffield, 11, giving reference data for stocked sizes of Dormer twist drills. In addition to tables of sizes and decimal equivalents, speeds, feeds, and other practical information for the engineer, there are numerous illustrated notes on how to get the maximum use out of drills and similar tools.

The Scrap Heap

ROSE HIPS BY G.W.R.

The G.W.R. is making arrangements for the rapid transit of over 100 tons of rose hips to factories at Acton and Coleford (Glos.) for the extraction of a valuable vitamin "C" syrup. The gathering of the berries will go on from now until the end of November under the organisation of County Committees.

CHASED HIS OWN TRAIN

As the Atlantic Coast Express was pulling out of Camelford, Cornwall, recently, the guard fell out. A passenger pulled the communication cord and the train stopped half a mile from the station: the guard was by then on his way by car to pick up the train at Otterham, next stop.

He had to drive back to Camelford and walk up the track to the train which was held up about an hour.—From the "Daily Mail."

NIGHT NOISES AT STATIONS

The following notice appears on the outside cover of the working timetable issued by the East Indian Railway:—

"One of the most disturbing and unnecessary annoyances passengers meet with in the course of their travels is that of night noises at stations, and although the attention of the staff has been drawn repeatedly to this source of annoyance, either through the medium of the *Gazette* or by special notifications issued by Divisional Superintendents, very little appears to have been accomplished towards improving conditions in this respect.

"That it can be appreciably reduced, if not eliminated altogether, is unquestionable, but this can only be achieved by the hearty co-operation and endeavours on the part of station staff, particularly the supervising staff at stations.

"Unnecessarily blowing off steam through the locomotive safety-valves, whistling, shouting, banging of doors, rough shunting, arguments, vendors bawling out their wares, hammering on compartment windows, the loading and unloading of parcels, luggage, and mails, etc., in

a noisy and inconsiderate manner are some of the noises common at stations.

"If station staff would give this matter their earnest attention and persistently check all preventable noises, those who consistently offend in this respect could be induced to appreciate the desirability of mending their noisy ways and gradually to develop a habit of avoiding the noises for which they are responsible at present."

100 YEARS AGO

From THE RAILWAY TIMES, Sept. 11, 1847

CALEDONIAN RAILWAY.—NINTH

INSTALLMENT.—NOTICE is hereby given, that the Directors of the Caledonian Railway Company have made a CALL for an INSTALLMENT of £10 per share, being the ninth and final instalment, payable into one of the under-mentioned banks, on or before Friday, the 1st of October next.

London—Messrs. Masterman and Co., 35, Nicholas-lane, Lombard-street.

Liverpool—Messrs. Moss and Co.

Manchester—Sir Benjamin Heywood, Bart., and Co.

Bristol—The National Provincial Bank of England.

Newcastle-on-Tyne—The Newcastle Commercial Banking Company.

Edinburgh and Glasgow—The Commercial Bank of Scotland.

Interest at the rate of 5 per cent. per annum will be charged on all calls not paid at that date.

No transfer of shares received at this office after the 7th inst. can be registered until the call is paid.

T. W. CODDINGTON, Secretary.

Office, 129, Princes-street, Edinburgh,
September 1, 1847.

Transport Commission—N.B.

What is emerging from this disastrous stoppage is a thorough-going hatred of the Board. One miner said: "We dislike being managed by a horde of bureaucrats."

In that remark lies a world of resentment against a huge, impersonal organisation, with its highly paid executives, its "jobs for the boys," its luxury mansions and lily ponds, and its officials who know little or nothing about mining coal.

The whole set-up is far more inhuman and remote than the old-time boss or even the more modern limited company. The miner could argue with the "boss" when he had the chance, but he cannot bawl out the Coal Board.

He is bitterly disappointed with this particular fruit of Nationalisation. But he should have known, because he was warned often enough, what to expect. . . .

The miners have discovered that Nationalisation does not mean "The mines for the miners" any more than it will mean the trains for the drivers or the buses for the conductors.

The ruling class can never be the majority. If it is not the landowners or the industrialists, orders will come from the bureaucrats, the managers, the commissars—or the Stormtroop leaders.

Socialists have chosen the bureaucrats, and they must put up with them. If they want a change they must bring the change about constitutionally and not by direct action.—From the "Daily Mail."

"COME TO BRITAIN"

One other thing. There is a body called The Travel Association which is trying as hard as it can to get foreigners generally, and Americans in particular, to come here and spend their holidays. In other words, they are trying to boost Britain. I hope to goodness they fail.

First, because, even as it is, there are too many to be served and not enough to serve; too many to eat and not enough food; too many to travel and not enough trains; in other words, while things are so short, surely the English family might

have what is going instead of having to hold back for Americans.

Secondly, in our own interests. I should have thought it better to wait two or three years before we make such a fuss about getting people to come to Britain.—Professor Joad in "The Sunday Dispatch."

LONDON TRANSPORT ON THE SCREEN

In response to requests from clubs all over the country, London Transport has prepared special sets of lantern slides and lectures telling the story of the growth and recent development of transport services in London. Lantern enthusiasts will be showing them this winter. More than 300 clubs and other organisations, with an aggregate membership of thousands, have requested the board already to supply slides. A series of seven lectures is available to accompany slides or film strips. A complete lecture in the strip version goes into a box the size of a shaving stick.

SOME RAILWAY MEMOIRS—5

By Sir Sam Fay

We had a red-haired porter at Stockbridge nicknamed "Copper-top." He was a constant source of entertainment. He was one day sent to ask an engine-driver for "the key of the tunnel." The driver's reply is unprintable. . . .

At 11 a.m. every morning it was the custom to have a refresher in the shape of a pint of beer. I often found myself standing at the refreshment counter between a porter and Archibald Scott, General Manager.* Mr. Scott's drinking habits were peculiar. He frequently left the refreshment room by one door, then entered by another, pulled the lobe of his left ear, and took a second draught. . . .

* Archibald Scott entered the service of the L. & S.W.R. as Traffic Manager on August 17, 1852 (he had previously been with various Scottish lines). He became General Manager in 1870, and held that office until November 10, 1884, when he was made a Director.]

It was my duty as Superintendent of the Line to travel in charge of Royal trains.

The then Prince of Wales used the line a great deal, not always in the greatest comfort. On one occasion during a journey from Southampton to London the electric light, then used for the first time, went out, and the party travelled in darkness for the greater part of the journey. At Waterloo the Prince gave me the benefit of his opinion and rolled his "r.s." "It is perfectly disgraceful." Then Prince George joined in. I could offer no excuse.

The Prince complained on another occasion of his breakfast getting cold. This was sent from Marlborough House in a hay box. To improve matters I had an oven heated by coal gas. The foreman footman came to me upon arrival at Southampton and said, "See what you have done to me." He had lighted the gas which was circulating round the oven. His eyebrows were burnt and his hair singed. He said the Prince did not notice it, being too busy with his fish, eggs and bacon.

Queen Victoria did not like a train to travel fast. On one trip to Portsmouth she complained. On this journey the lamps on the roof were knocked off. A low tunnel fouled the train, built by the North Western Company, which did not allow for difference in South Western tunnel's clearance.

When Queen Victoria went for the last time to Portsmouth from Windsor, I was in charge; likewise of the train from Gosport to London when the body of the great Queen was conveyed en route to Windsor. . . .



Webbale

"You are the millionth passenger to use the change machine. The company therefore has pleasure in presenting you with seven pennyworth of coppers for sixpence."

[Reproduced by permission of the proprietors of "Punch"]

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Travel Between Dominions

The North Western and the Eastern Punjab Railways were affected seriously by the widespread disturbances that occurred in the Punjab in the wake of the award of the Boundary Commission which laid down the final line of demarcation between India and Western Pakistan.

Train service between the two Dominions was reduced to a minimum in the second half of August, high priority being given to specials exchanging refugees between India and Pakistan, and to trains carrying coal for the N.W.R. The N.W.R. depends for its coal supplies on the coalfields of Bihar. Low stocks, therefore, forced that railway to make drastic cuts even in areas which were not affected by the riots.

People wishing to travel between Delhi and Lahore were warned by the West Punjab Government on August 24 that railway journeys through the intervening territories were unsafe because there had been several attacks on trains in the course of the communal rioting, involving murders and loot.

Attacks on Trains

The down "Frontier Mail" from Peshawar to Bombay Central arrived 24 hr. late in New Delhi on August 24 owing to incidents on the way. At Maur, between Bhatinda and Jind, the train was held up and attacked by about 200 armed men; the luggage van was broken into and looted. The train was searched and some passengers were killed.

A passenger train running between Pakpattan and Kasur was attacked similarly by a mob near Khudian Khas Station in the Montgomery district on the night of August 24. Some refugees from Montgomery, who were travelling on their way to India, were killed.

On the same day, a mob held up a train between Lahore and Badami Bagh, a suburban station of Lahore, resulting in three passengers being killed. The raiders also sustained some casualties. Another three passengers waiting for a train at Badami Bagh were stabbed on the platform.

PALESTINE

Sabotage Revived

As a result of a distinct worsening of the political situation in Palestine, internal security deteriorated and sabotage against the railways again became general, and no longer merely coincident with attempted illegal immigration. During the 19 days from July 21 to August 8, 21 cases of sabotage against trains, track, and bridges occurred in spite of intensive daylight patrols both by Engineering Branch staff and the Army. On July 24 mines found placed under a bridge at km. 38, near Benyamina, had to be detonated by the army, with the result that the bridge was destroyed and the main line was closed for three days for repairs.

On August 7 a goods train was blown up and twelve bogie oil tanks, fortunately empty, were derailed and piled up. Fortunately no serious casualties either to passengers or staff occurred during the period. At least one attempt to blow up the Cairo-Haifa passenger train was foiled, but later the terrorists achieved their object.

The unhappy record of the Palestine Railways is thought to be without parallel in the history of transport. During the Arab riots of 1936-39, sabotage of railway installations was serious and intensive, but the measures now adopted by dissident Jewish groups greatly exceed, in severity and efficiency, anything previously experienced. Considerable credit is due to both management and staff of all races for the devotion to duty and patience displayed, often at great personal risk.

General Manager's Broadcast

In a broadcast to the public of Palestine on August 8, Mr. A. F. Kirby, C.M.G., General Manager of the Palestine Railways, was unable to present an optimistic picture for the financial year ending March 31, 1948. It is doubtful, he said, if the railways will earn more than £P2 millions, whereas working expenditure is estimated to be approximately £P2½ millions, of which 40 per cent. will be accounted for by high cost-of-living allowances.

Instead of being a self-supporting, revenue-earning department of Government, the railways now have become a "spending" department, and are, therefore, in the nature of a burden to the country. This is due largely to competition from other forms of transport, and to sabotage.

CANADA

No U.S. Coal Wagons for C.N.R.

The Office of Defence Transportation at Washington on August 11 ordered an embargo on United States coal shipments into Canada by way of the Canadian National Railways, to help relieve the continued wagon shortage in the United States. Canadian shipments by way of C.P.R. lines were not affected by the order. It was stated that the C.P.R. recently had been returning more wagons than it had been receiving from the U.S.A. In June and July the C.P.R. received 12,420 U.S. wagons and returned 13,140; while the C.N.R. received 31,860 wagons, but returned only 31,680.

C.N.R. Chairman on the Embargo

Mr. R. C. Vaughan, Chairman & President of the C.N.R., stated after the embargo was imposed that the situation created by the United States Office of Defence Transportation in placing an embargo on the movement of coal in open-top wagons from points in the United States to points on the Canadian National Railways in Canada, was serious. They believed the decision had been made arbitrarily and without a careful weighing of the factors involved.

Since the O.D.T. ordered that U.S. open-top cars be returned to U.S. lines from Canada, the C.N.R. had been making every effort to comply with the order. The situation was that the numbers of such wagons on C.N.R. lines did not exceed what had been regarded for years as being average. In Canada an unusual situation had been created by coal strikes in the United States and coal strikes in Nova Scotia, which combined to threaten industrial and railway supplies of coal in the country and had forced the C.N.R. to haul large quantities of U.S. coal to the Maritimes to stave off this threat. This was an abnormal situation which had to be met by abnormal measures. The C.N.R. had been much

more understanding and patient than had the O.D.T. Since early Spring the numbers of C.N.R. box wagons in the United States had increased steadily, until on August 10 there were 5,526 more Canadian National box wagons in the United States than there were U.S. box wagons on C.N.R. lines in Canada. Constant representations had been made to the Association of American Railroads and the O.D.T. to improve this situation, but with no effect.

UNITED STATES

Observation Cars for "Zephyrs"

Since August 9 two Vista-Dome observation cars have been running daily on the "Twin Cities Zephyr" trains of the Chicago, Burlington & Quincy, between Chicago, St. Paul, and Minneapolis. A further 30 cars of the same type will be delivered later this year and early in 1948, for operation on the new "California Zephyr" services between Chicago and San Francisco.

Railway Television Broadcasts

A programme entitled "Streamliner Parade," arranged by the C. & N.W. and Union Pacific, is being broadcast weekly from the North Western Station in Chicago. The programme consists mainly of interviews with passengers boarding the trains, many of whom are prominent in the entertainment world. It concludes with a glimpse of the "City of Los Angeles" streamliner departing in the background.

N.Y.C. Radio Phone Service

Beginning in October, radio telephone service for passengers will be provided between New York and Buffalo on the "Twentieth Century Limited," enabling conversations to be carried on between the moving train and any telephone connected with the Bell system. As soon as further Bell radio stations are in service, the train telephone facilities will be extended from Buffalo to Chicago.

The N.Y.C. installation will work in the 30-44 Mc/s band. The service introduced already by the Pennsylvania, and the Baltimore & Ohio (see *The Railway Gazette* of August 29) operates in the 152-162 Mc/s band. In both services, separate frequencies are used for transmission and reception, enabling conversations to be carried on without the complication of send-receive switching.

SWITZERLAND

Non-Stop Express on Lötschberg Line

A Sunday excursion train, consisting of a twin railcar set and named the "Lötschberg Express," was put into service experimentally on July 27 on the Lötschberg Railway, and runs the 72.6 miles between Berne and Brigue in 1½ hr. non-stop. The train accommodates 250 passengers, and runs into Italian territory through the Simplon Tunnel as far as Domodossola, 25½ miles from Brigue. At Domodossola the excursionists are not allowed to break their journey, but are transferred immediately to a connecting train on the electric metre-gauge line to Locarno, a distance of 33½ miles, where they have 6½ hr. at their disposal.

The return trip from Locarno is made over the Gotthard line, with change of train at Lucerne. No Italian visa is needed for the journey between Brigue, Domodossola, and Ribellasca, the Italian frontier station on the metre-gauge line to Locarno.

Resurgence of Burma Railways Workshops

Progress in restoring an establishment notable before the war for its efficiency and harmonious labour relationships

PUBLIC attention was directed recently to the Myitnge workshops of the Burma Railways when they were visited officially by the Commissioner of the Mandalay Division on the day he formally opened the reconstructed bridge over the Myitnge River nearby. This reconstruction work was the subject of an article which appeared in our June 20 issue.

Before 1911 all Burma Railways carriage and wagon building and repairs were carried out, along with the locomotive repairs, at Insein, near Rangoon. Insein shops were, however, cramped, and the humid climate was unsuitable for carriage painting. It was decided, therefore, to build new carriage and wagon shops in the dry zone of Burma centred on Mandalay. This decision was influenced also by the fact that the teak logs required to be converted into some 3,000 to 4,000 tons of scantlings annually for both carriage and wagon body-building were floated down the Irrawaddy, and if they were landed near Mandalay, several hundreds of miles lead on them would be saved.

Myitnge Site Selected

Accordingly, a centrally-situated and generally convenient site for the new shops was selected at Myitnge, nine miles south of Mandalay on the main line from Rangoon. There a compact and modern series of shops was laid out and built, and simultaneously a comprehensive housing scheme, complete with social amenities, was carried out for the benefit of the workshop staff of all grades, numbering about 1,500, and their families.

In 1924 the shops were remodelled extensively and reorganised to provide an up-to-date sawmill, an underframe building shop, and an enlarged machine shop and smithy. The reorganisation of procedure ensured a continuous flow of work on the most modern lines then in vogue. As a result of these and other subsequent minor improvements, the scope of the shops in the year ended March 31, 1942, was briefly as described below.

Main-line coaching stock was overhauled every 12 months, and other carriage stock every two years; the average length of the period during which each coach was in shops was 17 days. Two coaches were completed daily, and the annual outturn was 540 coaches in terms of four-wheel units, though they were, in fact, nearly all bogie vehicles. Goods stock was overhauled every four years, each wagon being in shops for four working days. This low figure was achieved with all kinds of stock—steel-bodied and wooden-bodied and tank wagons, cranes, and brake vans—thanks to intensive attention to detail and close analysis of every item of work. Ten repaired wagons were turned out each working day, or about 2,500 a year on an average. All work on both coaches and wagons was done on the piecework or bonus system.

All new stock was built at Myitnge on the progressive system. One coach body was built by 30 men in 30 days, and three new coaches were turned out each month. Some of the more modern types of coach measured as much as 58 ft. 6 in. in length over bodies, fine vehicles for a metre-gauge line. One wooden-bodied wagon—practically all were of the covered type—was built by 40 men in 5½ hr., and 40

wagons were completed in the average month. Wagon stock included four-wheel and bogie, wooden-bodied and steel-bodied, covered, open, and flat types.

The following is a brief description of these workshops as they were in 1941. The power house was equipped with four Babcock & Wilcox water-tube boilers, supplying steam to five generator sets with an aggregate capacity of 1,400 kW. Water-softening plant was installed to prevent scaling. The water supply for the whole area was pumped from two wells with ample yield to meet an average daily consumption of 300,000 gal.

In the spring shop all types of spring—laminated, elliptical, and helical—were manufactured, and the smithy was equipped with 15 steam hammers of various kinds. There were also frame, fitting, machine, coaching, wagon, cabinet and trimming, paint, and electric shops, in which all the usual work was undertaken. The paint shop was a particularly up-to-date shop, run on modern lines. The stores stocked over 1,000 items valued at about £20,000, and the sawmill was capable of dealing with 4,000 tons of timber yearly.

The labour was mostly Indian, as Burmese labour was difficult to obtain, though its volume was increasing latterly. It is significant that within the last 20 pre-war years, there was not a single strike, thanks to efficient staff welfare committees, excellent relations between staff and administration, and first-rate housing and other amenities. As well as specially-built houses at nominal rents, the staff had the benefit of a railway school, a market, and both European and Oriental institutes, all of which were well patronised by the employees and/or their families.

War Damage and Restoration

In the spring of 1942 came the Japanese invasion of Burma, and Myitnge was finally evacuated on April 27 of that year, but not before the sawmill had been burnt out completely, and the power house and other machinery had been rendered unserviceable. Further damage was caused by R.A.F. bombing to ensure that the whole of the workshops were useless to the enemy.

When the Allies re-occupied Burma in 1945, they found that, as a result of these drastic measures and of three years' neglect, the workshop area was a mass of craters and debris, overgrown with jungle. Over 300 bombs fell in it. The task of clearing up the whole area was immense, and included searching for unexploded bombs, of which there were many. It was, however, quickly taken in hand, and with the aid of 500 Japanese surrendered personnel, who arrived in March, 1946, excellent progress was made.

As soon as possible, emergency plant was installed to provide steam power for the water pumps, machines, and lighting. Though all the generating sets had been put out of action, one engine and generator were made serviceable reasonably quickly. As all the boilers had been completely destroyed, two locomotive boilers were brought in to do stationary duty in place of them. A second generating set, also, has been repaired subsequently and placed in service. Fortunately the wells were not damaged.

Work in the various shops is being carried on today to a limited extent, in spite of the facts that the Japanese had removed all the machinery from the machine shop and that the sawmill had been completely destroyed. Providentially, a military workshop company, which arrived in February, 1946, to assist the shops generally, brought with it some wood-working and other machine tools. As a result, the machine shop is, for the moment, equipped with two lathes, a workshop tool-room lorry, improvised journal polishing and turning lathes, and a salvaged wheel lathe which is almost ready for service. The whole shop is cleared and prepared to receive other machines as and when they arrive from the United Kingdom. In a bay of the coaching repair shop, machines brought by the workshop company are installed temporarily for timber-cutting, replacing to a very limited extent the sawmill.

In the spring shop, new laminated and elliptical springs are being manufactured on a small scale, and coiled springs are being repaired. All work in the smithy still is having to be done by hand, but it is hoped to have at least one steam hammer working shortly. Japanese surrendered personnel blacksmiths are employed for the time being to make up the deficiency in smithy labour. In the frame shop, bogie repair bay, and fitting shop, work is going on to a limited extent, and many jobs are in hand as the result of ingenious improvisations.

In this way, and with the aid of plant that has begun to arrive, it is now possible to overhaul 14 coaches and 100 wagons a month, no mean achievement seeing that all those coming in for rehabilitation are in sorry condition and require heavy repairs.

Temporary Accommodation

Fortunately, apart from the sawmill, general office, and stores, buildings have not been damaged excessively, and the shops as a whole are, therefore, to be rebuilt, re-equipped, and reorganised substantially as they were before the war. For the time being, all stores are housed in the paint shop. As the general office building is uninhabitable, the Deputy Chief Mechanical Engineer (Carriage & Wagon)—who is in charge of everything connected with the shops—his office staff and all other general office staff, are accommodated temporarily in the school building, where also the Mandalay District officers and their office staffs are housed at present.

The railway hospital, which had 26 beds and a staff of 9, was damaged seriously. The out-patient building, however, has been repaired, and an in-patient ward of 10 beds has been reopened already; temporary buildings as well as part of the original buildings are occupied. The school is now functioning in the Oriental institute building.

GOODS VEHICLE RECORDS.—The Ministry of Transport has issued a reminder to holders of "A," "B," and "C" carrier's licences and defence permits of the statutory obligation which requires all drivers of goods vehicles, including owner-drivers, to keep and carry on their vehicles records of their hours of employment, the loads carried, and the journeys made by the vehicles. The records to be kept are explained in leaflet G.3/9, copies of which can be obtained from the licensing authorities for goods vehicles in all traffic areas.

Guaranteed Transits for Full Wagonloads

Baltimore & Ohio Sentinel Service informs traders of actual times wagons will be available for unloading



Baltimore & Ohio box wagon in special livery advertising the Sentinel Service

MORE than 30 cities on the Baltimore & Ohio Railroad of the U.S.A. have been provided this year with a new service which schedules the actual departure and arrival times of goods moving in full wagon loads. These facilities are known as the Sentinel Service from the fact that

the local B. & O. station, the user can find the latest time at which the wagon will be available for unloading at the various sidings in the other cities covered by the service. The location of these sidings is shown on terminal maps of each city. At the present time 400 different point-to-point

clear—proceed” aspect which is the symbol of the Sentinel Service.

Extensive use is made of teleprinter circuits in operating the service. Before a train leaves Chicago for the East, for example, the numbers and destinations of the wagons are teleprinted at once to the first marshalling yard, so that the staff there has all the information necessary for splitting up the vehicles and forming new trains before it arrives. Movements of Sentinel Service wagons are reported by teleprinter by the sentinels to Baltimore where records are kept automatically and failures to observe schedules are observed at once. The Sales & Service section immediately telegraphs to the B. & O. representatives at the originating and destination stations, who inform the despatching and receiving firms of the delay and of the new time of arrival.

The organisation links up at Cherry Run, W. Virginia, with the B. & O. Central States Dispatch Route, on which the lines and services of several other systems are utilised for rapid transit from any point on the B. & O. system to north-eastern districts. A service of quick despatch trains conveys wagons from all over the B. & O. system to Cherry Run, enabling delivery to be made as far away as Boston on the third day after leaving Chicago, St. Louis, or Springfield, Ill. Cars in transit over companies' lines on the Central States despatch route can be diverted or partly unloaded during their journeys as consignors may require.

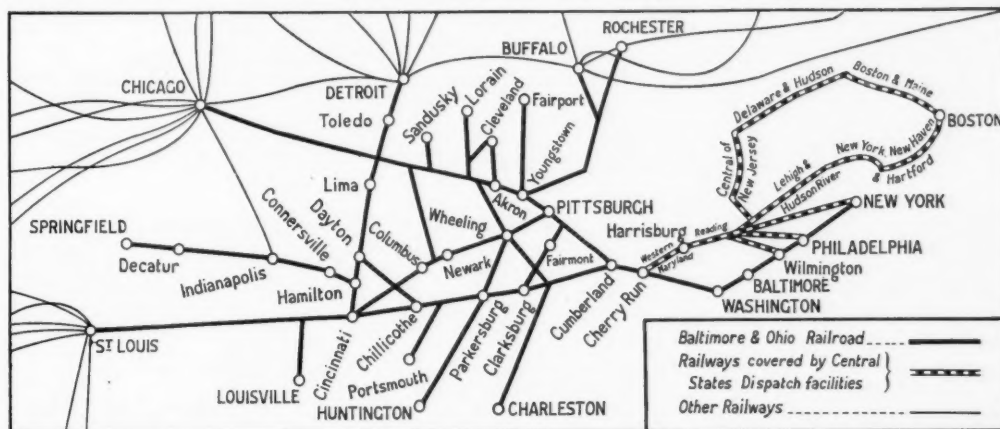


Diagram of points on the Baltimore & Ohio system between which the Sentinel Service operates

the progress of every wagon concerned is watched throughout its transit by a controller (or “sentinel”) who is assisted in his task by the latest types of communication equipment.

Traders using the service are issued with a blue book for their particular city, in which, for a given time of despatch from

journeys are possible under the Sentinel scheme.

Wagons used in the Sentinel Service are given a distinctive livery and carry the slogan “Siding to Siding Dependability.” They are painted aluminium, with a yellow rectangle on which is shown a colour-light signal displaying the double-green “all-

When wagons are forwarded to other companies' lines, the Sentinel Service informs the consignors and recipients of the times they will arrive at the interchange points. B. & O. agents at many places in the United States extend the advice and information facilities of the Sentinel Service to consignors on other railways.

CONTROL OF IRON AND STEEL.—The Minister of Supply has made the Control of Iron & Steel (No. 59) Order, which amends from September 3 certain maximum prices, and establishes maximum prices for extra light-weight quality screwed and socketed tubing.

L.N.E.R. RAMSEY NORTH SERVICE WITHDRAWN.—The L.N.E.R. announces that on and from Monday, October 6, the passenger train service between Holme and Ramsey North is to be withdrawn. St. Mary's and Ramsey North stations will remain

open for the conveyance of parcels, milk, fruit, and other miscellaneous traffic charged at rates applicable to passenger train or other similar service, and for carrying merchandise, etc., by goods train.

BROADCAST ON RACE TO ABERDEEN.—A repeat is being given in the Northern Home Service programme of the B.B.C. at 7.45 p.m. today (Friday) of the talk on “Railway Racing” which was presented originally on July 13, 1945. The talk is by Mr. S. W. M. Hind, of the York office of the Public Relations Officer, L.N.E.R., and

Mr. H. R. Jukes, of the B.B.C. Their subject is the racing between the East and West Coast routes to Aberdeen in 1895.

ROAD ACCIDENTS IN JULY, 1947.—The return issued by the Ministry of Transport of the number of persons reported to have died, or to have been injured, as a result of road accidents in Great Britain during the month of July last, shows 430 deaths (compared with 437 in July, 1946), 3,699 seriously injured (compared with 3,424 in July, 1946), and 13,269 slightly injured (compared with 11,316).

New Rhaetian Railway Electric Locomotives

Power-bogie design for heavily-graded main lines

FOUR new locomotives with the Bo + Bo wheel arrangement are under construction for the Rhaetian Railway of Switzerland, where they will be used on the main line between Chur and St. Moritz. In normal service the locomotives will be required to handle trains of 227 tons from Chur to Thusis, and of 162 tons between Thusis and St. Moritz. The first of the series was placed in service in July. These locomotives represent the most powerful single-phase metre-gauge type in Switzerland of comparable adhesion weight.

The locomotives are equipped with four traction motors developing 400 h.p. each at a speed of 29 m.p.h. They are designed for operation with a maximum line supply of 11,500 V. single-phase a.c. (16½ cycles). Speed control is by means of tappings on

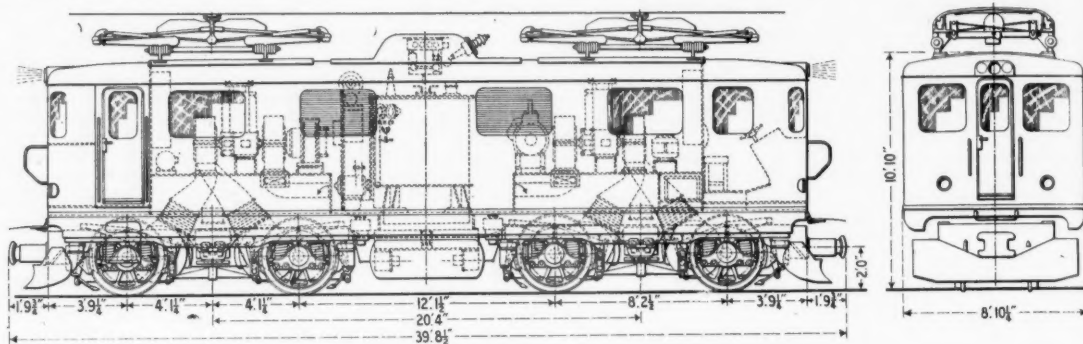
the high-voltage side of the transformer, using the Brown Boveri system. The locomotives are being equipped with compressed air braking supplied from an Oerlikon combined vacuum-compressor set, the vacuum being used for braking the train. Use is made of the compressed air supply for operation of the main high-speed circuit-breakers, the pantographs, control switch-gear, whistles, and sand-sprinklers. In addition, the Oerlikon regenerative braking system is fitted, and is designed for braking a train of 143 tons on inclines of 1 in 30.

Construction of the locomotives is being carried out at the Oerlikon works, and by Brown, Boveri & Company, for the electrical equipment; and by the Swiss Locomotive works, Winterthur, for the mechan-

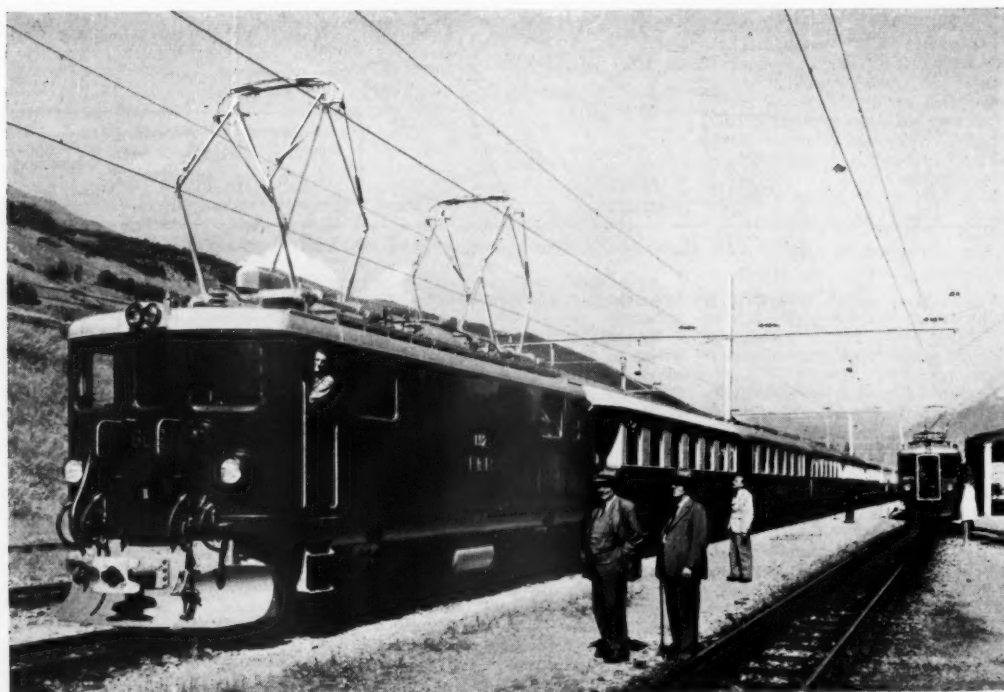
ical parts. Some leading dimensions of the design are shown below:—

Length over buffers ...	39 ft. 8½ in.
Maximum width ...	8 ft. 10½ in.
Bogie wheelbase ...	8 ft. 2½ in.
Distance between bogie pivots ...	20 ft. 4 in.
Driving wheels, dia. ...	3 ft. 6 in.
Motors (4) ...	400 h.p.
Maximum tractive effort at starting ...	14½ tons
Hourly rating ...	1,600 h.p. at 26.6 m.p.h.
Maximum speed ...	47 m.p.h.

In addition to the main-line service described already, the locomotives are designed to haul trains on the Landquart-Davos route, where the loads will be 167 tons to Kublis, and 123 tons to Davos. With the foregoing weights, a speed of 28½ m.p.h. is to be maintained on the 1 in 29 gradients of the Filisur-Preda section of the main line to St. Moritz, and on the 1 in 22 sections of the Kublis-Wolfgang portion of the Landquart-Davos journey. Previously the capacity of the locomotives available has restricted speeds on these sections to 18½ m.p.h.

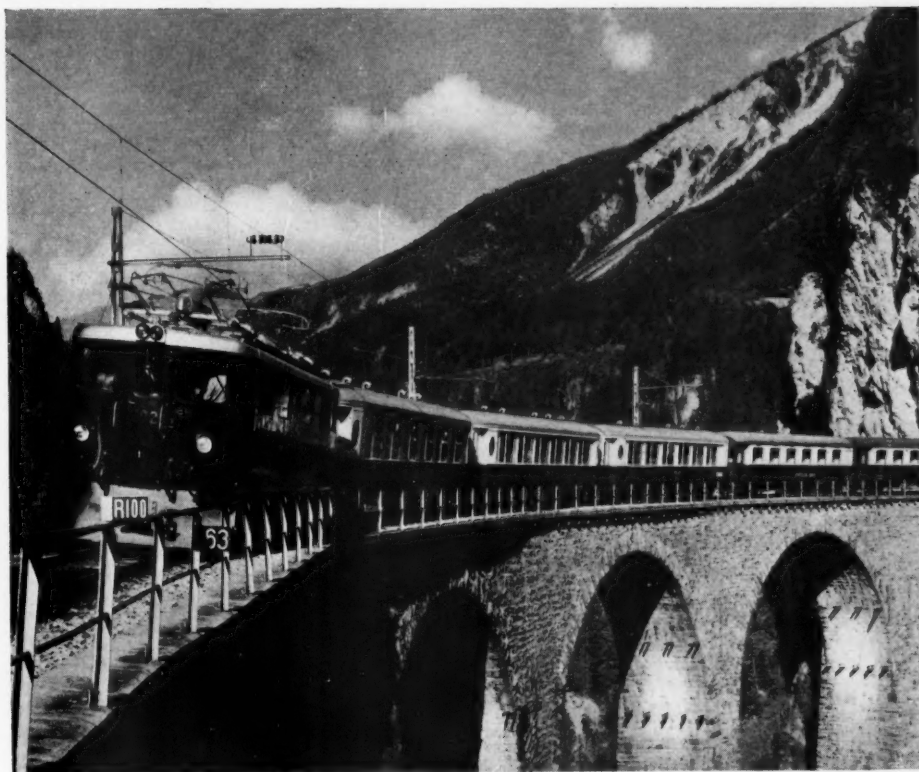


Principal dimensions of new Rhaetian Railway Bo + Bo locomotive



A halt during a trial run with the new locomotive. Considerable improvements in schedules on the hardest sections of the Rhaetian Railway will be made possible by the introduction of this class

New Rhaetian Railway Electric Locomotives



New Bo + Bo locomotive in passenger service

Attachment of Pinions to Armature Shafts

London Transport experiments show that accurate shrink-fitting enables keys to be dispensed with

AN important component in a nose-suspended traction motor installation is the reduction gearing. Developments in the materials used for these elements are being made constantly, but existing methods of mounting gears and pinions on to the driving axle and armature shaft, respectively, are much the same as they were 30 years ago. In the conventional method of mounting, the pinion, which has a tapered bore, is shrink-fitted on to the armature shaft to ensure concentricity of parts. Relative movement between the elements is prevented by means of keys. The straight key with parallel sides usually adopted requires accurate fitting.

The experience of the London Passenger Transport Board has shown the desirability of keeping gears and pinions together throughout their lives. When motored wheels and axles are detached from a vehicle for maintenance, the pinion is removed from the motor and clamped to the wheel and axle assembly until refitted to a car, thus ensuring that the proper pinion is mounted on the motor shaft.

It may be assumed that, if the pinion is properly fitted to the armature shaft, there should be no need of a key; if, however, the pinion is not properly fitted to the shaft, experience shows that the key will not save considerable damage both to the key-ways and the key itself, as well

as to the taper seating of the pinion on the shaft. Pursuing this line of thought, the board decided that service tests should be carried out with a number of pinions on which the key fastening was eliminated, and reliance for transmission of torque placed entirely on the shrink fit.

At first, service tests were conducted on electric shunting locomotives, because of their large amount of low-speed high-torque operation. Experience so gained established that the use of the shrink-fit only was satisfactory as a method of assembly, and had advantages over the conventional method. This experience was confirmed in an extensive series of service tests on passenger cars, and it has now been decided that the pinions on the traction motors of future railway rolling stock for the board will not be provided with key fastenings.

ELECTRIFICATION IN THE URALS.—Among particulars recently published by the Soviet Minister of Communications, regarding the post-war progress of U.S.S.R. railways, mention was made of the conversion of some 62 route-miles in the Ural region to electric traction. Further details show that the electrification of the 31-mile single-track line between Nadezhdinsk and Bogoslov, in the Northern Urals (see map in

our December 10, 1943, issue) is in hand at present. This work is stated to be an extension of the electrified line between Goroblagodatskaya and Sverdlovsk (110 miles), although no mention is made of converting the 120 miles between Nadezhdinsk and Goroblagodatskaya. On the Nadezhdinsk-Bogoslov section, the installation of the overhead contact line and of the substations is reported to be proceeding apace. The building of a large shed for the accommodation of a number of electric locomotives at Nadezhdinsk marshalling yard was completed recently. In the Southern Ural section, electric traction was introduced on August 9 between Zlatoust and Baritnaya (on the double-track main line between Ufa, Zlatoust, and Chelyabinsk). It is expected that electrification will reach Kropatchevo this year.

SWISS THIRD-RAIL SYSTEM CONVERTED TO OVERHEAD.—Electric working on the third-rail system on the 20-mile Fribourg-Morat-Anet standard-gauge line was abandoned on August 12, and the overhead conductor system adopted instead. At the same time the former 900-volt supply was replaced by 15,000 V. a.c. at 16½ cycles as used on the Swiss Federal Railways. The Fribourg-Morat-Anet line belongs to the Compagnie des Chemins de Fer Fribourgeois, and was the only line in Switzerland to be worked on the third-rail system. The section from Fribourg to Morat was opened to traffic in 1898, and converted to electric traction in 1903, when the extension to Anet, also electrically worked, was opened.

Tank Landing Ship Converted for Locomotive Transport

The first voyage of the "Empire Baltic," converted from an L.S.T. for the carriage of locomotives and commercial vehicles, was made on August 5

RECENTLY three L.S.Ts (landing ships, tanks) were acquired from the Admiralty and the Ministry of Transport by the Atlantic Steam Navigation Co. Ltd., for operation by Frank Bustard & Sons, Ltd., under the name of the Continental Line Transport Ferry Service. The General Manager of the Atlantic Steam Navigation Co. Ltd. is Major-General Gilbert S. Szlumper, formerly General Manager of the Southern Railway.

One of the three ships, the *Empire Baltic*, is fitted specially for the transport of locomotives and commercial vehicles. The *Empire Baltic* made its first sailing on August 5 with a cargo of 16 locomotives and 22 heavy motor vehicles for discharge at Split, Yugoslavia. All three ships were

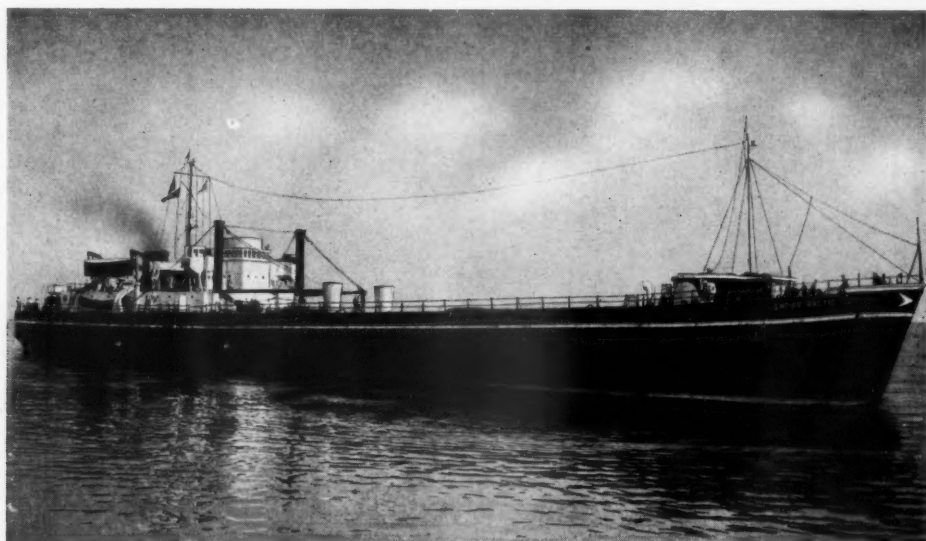
in their original naval state when taken over, and the subsequent reconditioning of passenger and crew accommodation, erection of bridges, and general conversion to commercial use, has been carried out by Harland & Wolff Limited, to the designs of the Atlantic Steam Navigation Co. Ltd. Two of the ships, the *Empire Cedric* and *Empire Celtic*, are maintaining a regular service between Tilbury, Hamburg, Rotterdam, and Antwerp for the carriage of all types of commercial vehicles.

The *Empire Baltic*, of 4,157 tons, has been fitted in the hold with three parallel railway tracks, and crossings are provided between the centre track and the two outside lines. This arrangement was designed by Captain F. S. Misken, Marine Super-

intendent of the company. The loading and discharge of vehicles is carried out by means of the bow doors and ramps as with the tank landing craft.

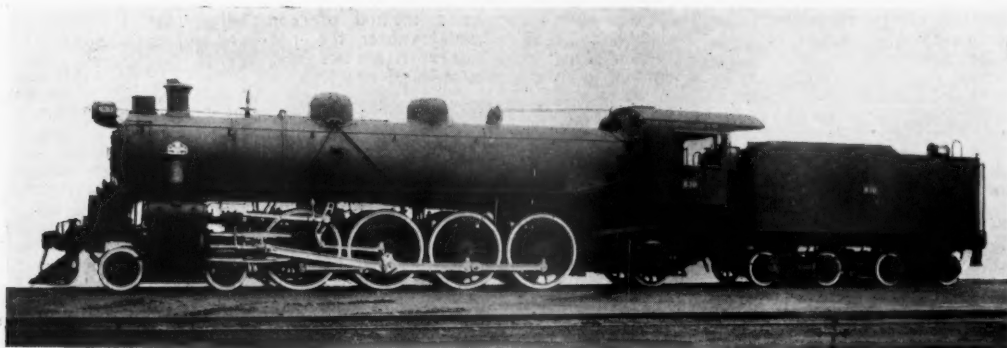
In its new form, the *Empire Baltic* has been repainted with the hull in deep blue, having a white band superimposed. The upper works are painted white; a bridge and a foremast have been added. Accommodation is provided in all three vessels for a maximum of 12 passengers. Only the *Empire Baltic* is provided with special railway tracks for the purpose of carrying locomotives.

FURTHER ADDITION TO MACROME FACTORY.—In our issue of April 25, 1947, it was reported that Macrome Limited had moved to extensive modern premises at Wolverhampton. We now learn that, since then, this firm has taken over a further factory adjoining, which represents an additional 20,000 sq. ft. of working space, and which is being quickly adapted.



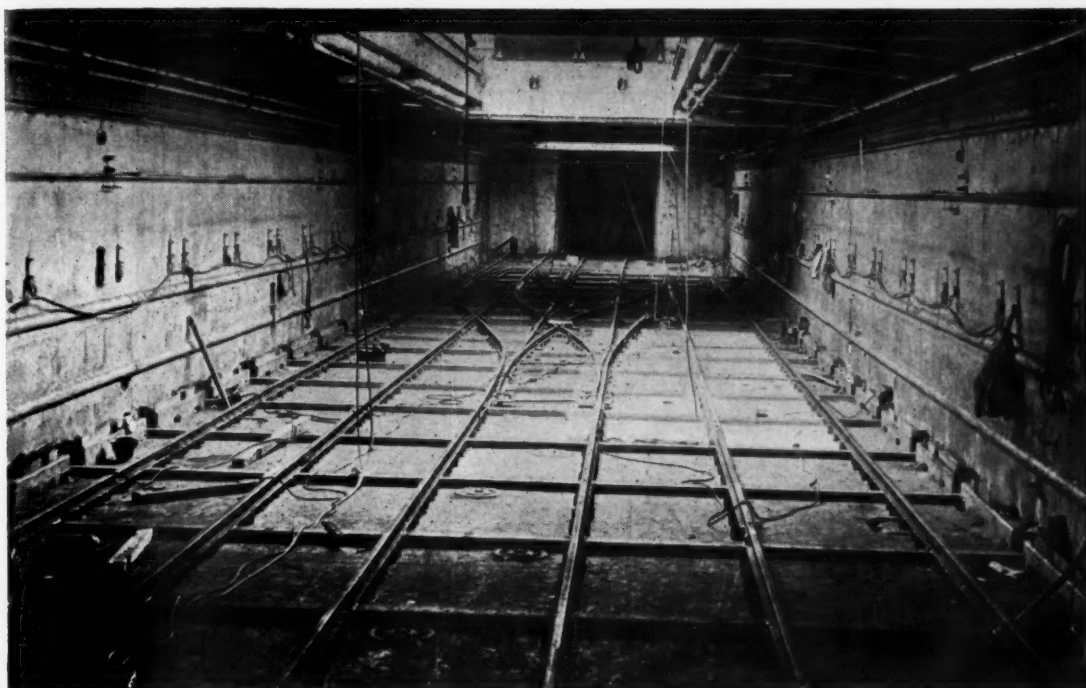
The ex-tank landing ship "Empire Baltic" as she now appears externally with the addition of a bridge

Baldwin Locomotives for Chilean State Railways

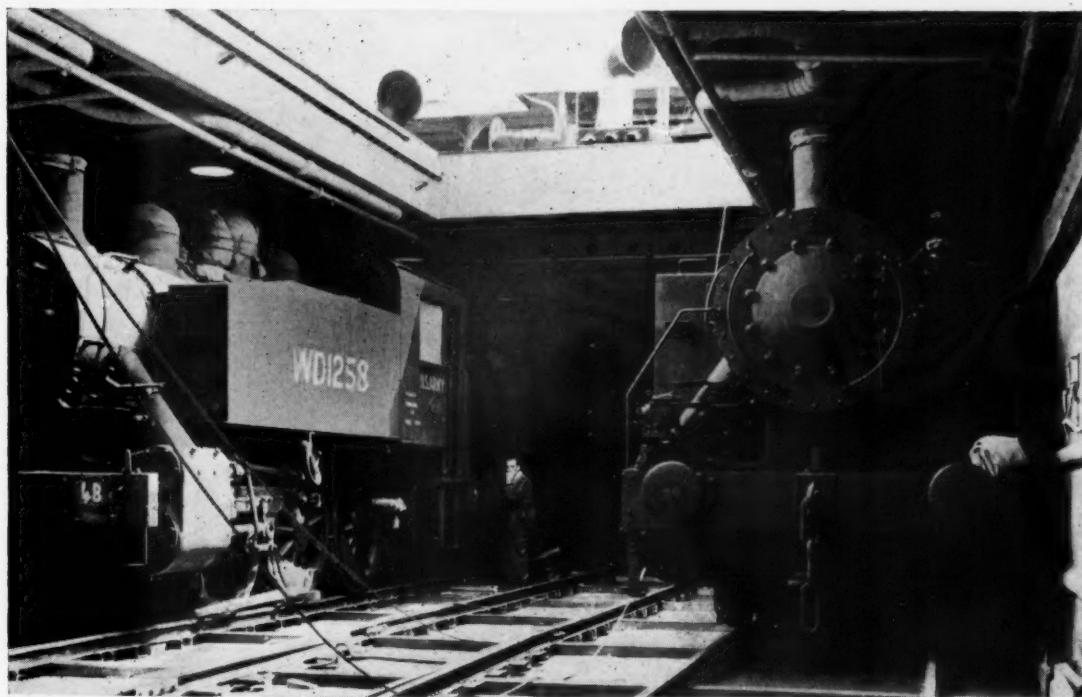


One of the twelve coal-burning 4-8-2 locomotives recently built for the Chilean State Railways in the Baldwin Locomotive Works. The locomotives are for passenger and goods service on the 1m. 676 gauge

Tank Landing Ship for Locomotive Transport



The hold of the "Empire Baltic." Three parallel tracks have been laid with a crossover from the centre to the outside tracks. This layout was designed by the owning company's marine superintendent, and was installed by Harland & Wolff Limited at Southampton



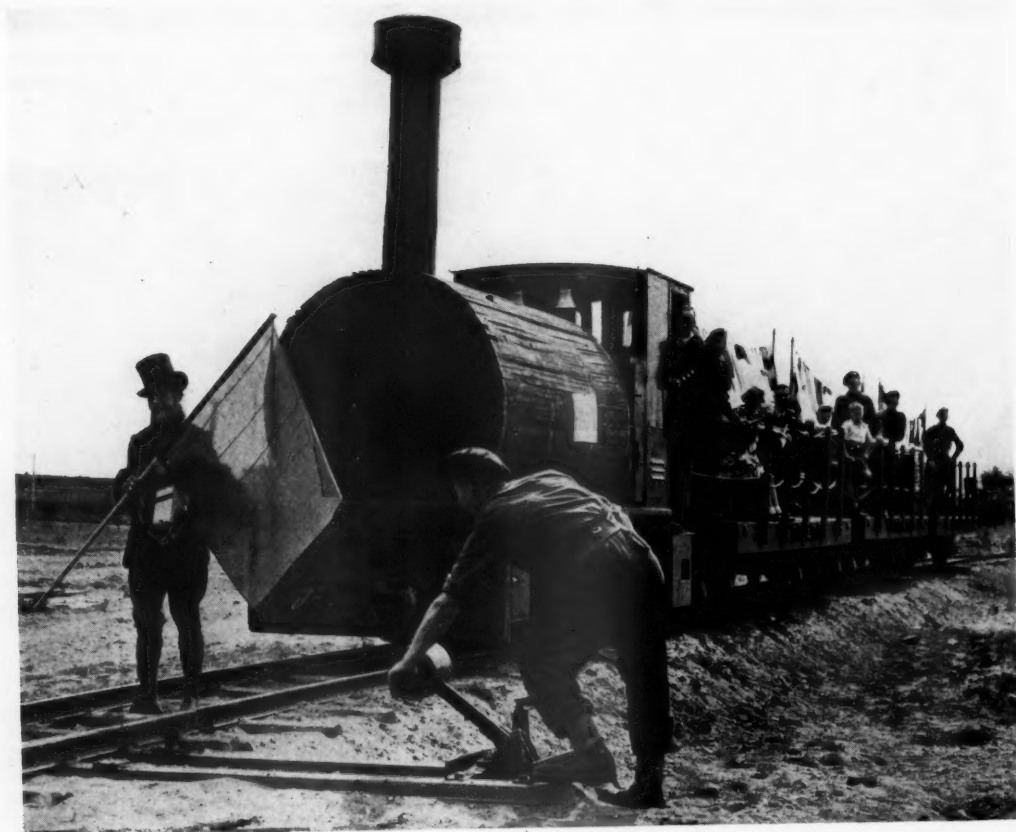
Another view, showing some of the 16 locomotives for U.N.R.R.A., destined for Split, Yugoslavia, which the vessel "Empire Baltic" carried on a recent voyage from Southampton

Longmoor "At Home"

(See article on page 302)



One of the locomotives open to inspection at Longmoor



A trip on the "old-fashioned" train

RAILWAY NEWS SECTION

PERSONAL

British Transport Commission

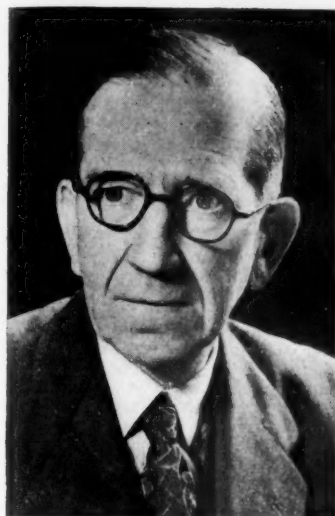
The British Transport Commission has appointed Mr. Miles Beevor, at present Acting Chief General Manager of the London & North Eastern Railway, to be Chief Secretary & Legal Adviser to the Commission. With the concurrence of the board of the L.N.E.R., which has agreed to release Mr. Beevor from his present duties, this appointment will take effect as from September 29 next. A portrait and biography of Mr. Beevor in connection with his appointment as Acting Chief General Manager, L.N.E.R., as from June 7, appeared in *The Railway Gazette* of May 30 last.

trol, Ministry of Food, Mr. Gracie has been responsible for organising and maintaining the control of food infestation in this country. He has undertaken missions to various countries to advise on control of infestation. Responsibility for the control of infestation in food and agriculture in England and Wales has now been placed on the Minister of Agriculture & Fisheries, and Mr. Gracie is taking charge of the combined work under that Ministry, retaining the title of Director of Infestation Control. He is a Fellow of the Royal Sanitary Institute, a Fellow of the Royal Entomological Society, and a Foundation Member of the Institute of Transport. Mr. Gracie is also a member of the Athenæum.

J. F. C. Reynolds, General Manager, South Indian Railway. His Majesty's approval of these knighthoods was signified on June 12, 1947.

Mr. S. Davis has been appointed Chief Staff Officer, Palestine Railways.

Mr. E. W. Bratchell, who, as recorded in our July 25 issue, has been appointed Audit Accountant, Great Western Railway, entered the company's service in 1908. Throughout his career he has been closely associated with the compilation of revenue statistics and matters arising out of inter-company pooling arrangements. He was appointed Head of the Statistics & Pooling Section of the Audit Office in



Mr. W. M. Gracie

Assistant Goods Manager, Southern Area, L.N.E.R., 1927-47.

Mr. W. McAuley Gracie, M.B.E., Assistant Goods Manager, Southern Area, L.N.E.R., who has been seconded to the Ministry of Food since 1941, is, as recorded in our September 5 issue, retiring from the railway service. Mr. Gracie joined the Great Central Railway in 1902, and, after serving at several stations, went in 1905 to the office of the District Superintendent, Doncaster. In 1911 he was attached to the General Manager's Office in connection with new works and special matters. In the next year he became Personal Clerk to the Chief Goods Manager, and in 1915 was appointed Chief Clerk to that officer. In 1923 he became Assistant to the Goods Manager, Southern Area, in charge of Works, Traffic, Wagons & Parliamentary Matters; and he was appointed Assistant Goods Manager, Southern Area, in 1927; since 1941 he has been seconded to the Ministry of Food. Mr. Gracie was at one time a member of the company's side of the Great Central conciliation board for goods workers, and during the 1914-18 war he was appointed by the Railway Executive Committee as Secretary to the Joint Negotiating Committee of Goods Managers and the N.U.R. Executive in respect of the conditions of service of those grades. He was for two years, in 1939-40, Master of the Worshipful Company of Carmen, and in 1940-41 was President of the City Livery Club of London. As Director of Infestation Con-



Mr. W. H. Anglesey

Audit Accountant, G.W.R., 1945-47.

Mr. W. H. Anglesey, who, as recorded in our July 25 issue, has retired from the position of Audit Accountant, Great Western Railway, entered the company's service in the Audit Office in 1902. After gaining experience in the Passenger, Parcels, and Goods Sections of that department he was appointed Head of the Parcels Section in 1929, and in 1933 took charge of the Goods Section. In April, 1939, he was appointed Assistant to the Chief Accountant, and in October, 1945, Audit Accountant. Mr. Anglesey served with the Army overseas from January, 1917, to January, 1919.

Sir Eustace Missenden, O.B.E., General Manager of the Southern Railway, and recently appointed Chairman of the Railway Executive under the British Transport Commission, and Mr. R. H. Hacker, Continental Superintendent, Southern Railway, on September 4 were made Officers of the Legion of Honour by the President of the French Republic in the presence of the General Manager and officers of the French National Railways.

Under authority of a Royal Warrant, the Viceroy of India recently conferred the honour of knighthood on Mr. Alfred Charles Turner, Principal Secretary to the Government of India, Finance Department (late Financial Commissioner of Railways, Government of India); and Mr.



Mr. E. W. Bratchell

Appointed Audit Accountant, G.W.R.

April, 1939; and he became also responsible for the Parcels Accounts Section in September, 1939, and the Fares Section in November, 1945. From 1914 until 1920 Mr. Bratchell served with the Royal Fusiliers and Queens Royal West Surrey Regiment, in which he became Captain and Adjutant.

Mr. H. Aidley, M.B.E., who has been appointed Assistant, Department of the Chief Officer for Labour & Establishment, L.M.S.R., has, as recorded in our August 22 issue, relinquished the Secretaryship of the Railways Staff Conference on returning to the L.M.S.R. to take up his new appointment. Mr. Aidley joined the L.N.W.R. in 1913 as a junior clerk in the Stationmaster's Office, Stockport, and later served at other stations in the Manchester District, gaining experience in commercial and operating work. After serving with H.M. Forces in Belgium, France and Italy in the 1914-18 war, he returned to railway service early in 1919, and acted as relief clerk until 1921, when he entered the Staff Section of the District Superintendent's Office at Manchester Exchange Station. In 1924 he was transferred to the staff of the Chief General Superintendent at Derby, L.M.S.R., and he remained there until 1933, when he was appointed Assistant Secretary of the Railways Staff Conference at Westminster. Mr. Aidley was appointed Secretary to the Railways Staff Conference



Mr. H. Aidley

Appointed Assistant, Department of the Chief Officer for Labour & Establishment, L.M.S.R.

in October, 1937, and was Secretary, on behalf of the railway companies and the trade unions, of the Railway Staff National Council; also of the Special Joint Committee on Machinery of Negotiation for Railway Staff. He was also Joint Secretary of the National Railway Shopmen's Council, the National Railway Electrical Council, the Railway Police Central Conference and the Railway Workshop Supervisory Staff National Council. To his other Secretaryships was added that of the R.E.C. Staff Committee in 1939. He held those positions throughout the difficult period of the war, and his services were recognised in the New Year Honours List this year by the award of the M.B.E.

Mr. J. G. Norton, Assistant Secretary, Railways Staff Conference, who, as recorded in our August 22 issue, has been appointed Secretary, was educated at the Kilburn Grammar School. He joined the L.N.W.R. as an apprentice clerk in Feb-



Mr. J. G. Norton

Appointed Secretary, Railways Staff Conference

ruary, 1915, and, after service in the Audit Department, was transferred to the General Manager's Office in the same year. After war service in Palestine and France, he returned to the General Manager's Office, L.N.W.R., in 1919, and, subsequent to the amalgamation, continued in the General Manager's Office, L.M.S.R. In 1926 he was transferred to the Labour & Establishment Department, serving first in the Welfare Section, and, from 1931, in the Wages & Conditions Section. For a period before the recent war he served on sub-committees of the Railways Staff Conference, and on the outbreak of war was transferred to the Railways Staff Conference as Assistant Secretary. He vacates that position to take up that of Secretary, and he becomes also Secretary of the Special Joint Committee on Machinery of Negotiation for Railway Staff and of the Railway Staff National Council, and Secretary of the Railway Companies' Side of the Railway Shopmen's National Council, the National Railway Electrical Council, the Railway



Mr. A. G. Banks

District Engineer, Bradford, L.M.S.R., 1941-47

Workshop Supervisory Staff National Council and the Railway Police Central Conference.

Mr. A. G. Banks, B.Eng., A.M.I.C.E., who, as recorded in our August 8 issue, has retired from the position of District Engineer, Bradford, L.M.S.R., was educated at Bickerton House, Birkdale, and Liverpool University. He served a pupilage from 1906 to 1909 under Mr. D. C. Rattray, then Chief Engineer, Lancashire & Yorkshire Railway, and began service with that railway in 1909, continuing with the L.M.S.R. after grouping. Mr. Banks was engaged on all sections of railway civil engineering, beginning in the drawing office with experience of permanent way, and bridge and structural designing; and then as Assistant to Resident Engineer on widenings, connecting lines, docks and other works. In the 1914-18 war he held a commission as Lieutenant in the 113th Company, R.E.; and after the war he returned to the railway service and became



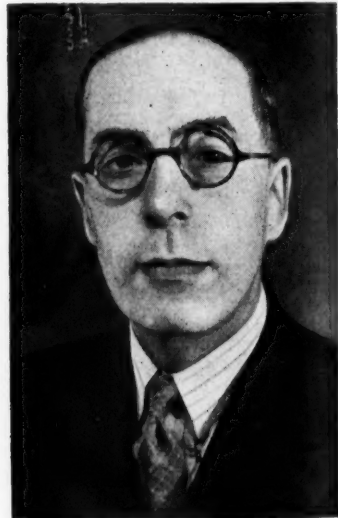
Mr. C. J. Chaplin

Appointed District Engineer, Bradford, L.M.S.R.



Mr. W. J. Amies

Appointed Assistant Secretary, Railway Clearing House



Mr. W. S. Cutler

Appointed Head of Secretarial Department, Railway Clearing House

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Resident Engineer on bridge and station reconstructions, and for reinforced concrete retaining walls and other works. Mr. Banks was appointed Assistant to the District Engineer, Bradford, in 1929, and became District Engineer there in 1941.

Mr. C. J. Chaplin, District Engineer, Derby (South), L.M.S.R., who, as recorded in our August 8 issue, has been appointed District Engineer, Bradford, served a two-years pupilage from 1922-24 under Mr. E. F. C. Trench, Chief Engineer, L.N.W.R., and afterwards L.M.S.R., and then spent five-years on new works, which included the widening of the former Lancashire & Yorkshire main line between Horbury and Wakefield. In 1929 Mr. Chaplin became a draughtsman in the District Engineer's Office, Walsall, and in 1933 was appointed Assistant to District Engineer, Bangor. He was made Assistant to District Engineer, Liverpool, in 1937; and in 1942 he was appointed Acting District Engineer, and, in 1945, District Engineer, Derby (South).

Mr. W. J. Amies, who, as recorded in our August 8 issue, has been appointed Assistant Secretary to the Railway Clearing House, entered the R.C.H. in 1905 in the Traffic Department, and a few years later was transferred to the Secretarial Department. He served overseas with the London Yeomanry during the 1914-18 war, and on his return resumed his duties on the Secretary's staff and was engaged on secretarial work in connection with meetings of the West Riding district officers and later with Goods Managers' sub-committees. From 1933 to 1939 he acted in a secretarial capacity to sub-committees of the International Traffic Committee and to the Railway Statistics Committee. He was Secretary to the Rail Panel of the Kent, Surrey & Sussex Railway & Traders' Conference from January, 1936, to March, 1946, and to the Metropolitan Conference from April, 1939, to March, 1946. During the recent war period he was Secretary to the R.E.C. Goods Committee. Mr. Amies became Head of the Traffic Department of the R.C.H. in April, 1946, but was appointed Head of the Secretarial Department in the next month.

Mr. W. S. Cutler, General Assistant, Secretarial Department, Railway Clearing House, who, as recorded in our August 8 issue, has been appointed Head of the Secretarial Department, joined the R.C.H. in 1913 and entered the Secretarial Department in 1914. After war service with the Rifle Brigade he returned to Clearing House duties on the Secretary's staff in 1919, and for many years was engaged in a secretarial capacity in connection with meetings of the Departmental Committee of Solicitors and the Mineral Managers' Conference. From 1939 to 1941 he was Secretary of the R.E.C. Stores and Mineral Committees, and when the Inter-Company Freight Rolling Stock Control was set up in March, 1941, he was appointed Secretary to the Freight Rolling Stock Committee and the Ministry of Food Meat Liaison Committee. Mr. Cutler took charge of the Mileage Section in 1942, and was appointed General Assistant in 1944.

Mr. H. C. Hastings, Chief of the Control Gear Engineering Department, British Thomson-Houston Co. Ltd., has retired, after 49 years' service. He was one of the pioneers in the design of contactors and their application to electric traction and industry. Mr. C. J. Sarjeant has been appointed to succeed Mr. Hastings. For the past 28 years Mr. Sarjeant has been

closely identified with the development of contactors, control gear in general and fully automatic sub-station control in particular; in this connection he went to South Africa in 1928 to supervise the final installation of 3,000-volt d.c. automatic sub-stations for the South African Railways.

We regret to record the death on August 17 of Mr. Louis Green, formerly Chief Engineer, East Indian Railway, who retired in 1928.

Mr. A. W. S. Walker, Assistant District Operating Manager, Barrow (located at Workington), L.M.S.R., retired on September 6.

Mr. W. H. Salkield, General Manager of the Sierra Leone Government Railway, has been appointed General Manager of the Gold Coast Government Railway, in succession to Major C. R. Turner, retiring.

Mr. Gordon Russell has been appointed Director of the Council of Industrial Design. Mr. Russell was recently elected Master of the Faculty of the Royal Designers for Industry.

SOUTH AFRICAN RAILWAYS & HARBOURS

Mr. H. J. P. van den Steen, Assistant Superintendent (Operating), System Manager's Office, Pretoria, has been appointed Superintendent (Operating), System Manager's Office, East London, in succession to Mr. G. P. Rousseau, who has retired.

Mr. John Ennis has been appointed to supervise the hotels and catering services of the Irish Transport Company. Mr. Ennis, who will have his headquarters in Dublin, has had considerable hotel experience on the Continent; he has held appointments in France, Germany and Switzerland, and, latterly, at the May Fair Hotel, London.

The Minister of Fuel & Power has appointed Sir John Macfarlane Kennedy to be Chairman of the Electricity Commissioners, in succession to Sir Cyril Hurcomb, who has resigned on being appointed Chairman of the British Transport Commission. Sir John Kennedy was appointed an Electricity Commissioner in 1934 and Deputy Chairman of the Commissioners in 1938.

The freedom of the Italian city of Ancona has been conferred on Captain W. Stanley Smith, R.E., now on the Great Western Railway headquarters staff at Paddington, and formerly of the Allied Control Commission in Italy. He went to Ancona in 1944, where his task was to look after the welfare, feeding and clothing of all the Italian railway employees throughout the province of Ancona.

We regret to record the death, at the age of 77, of Mr. Arthur B. Wallis, who was well known to many in signal engineering circles. He joined the Telegraph Department of the Midland Railway under Mr. W. E. Langdon in 1893. When, in 1905, Mr. Langdon's successor as Telegraph Superintendent, Mr. J. Sayers, decided to establish a technical branch of the department, Mr. Wallis was appointed the first Technical Assistant, and he became Chief Technical Assistant in 1922. He took a considerable part in the training of engineering apprentices. After the grouping he was made New Works Assistant, and he retired from that position in 1930. Mr. Wallis was a Member of Coun-

cil of the Institution of Railway Signal Engineers for 1923 and 1924, and in the next year he was elected Honorary Treasurer, which office he held until February, 1935.

The L.M.S.R. announces the appointment of Mr. D. S. M. Barrie as Assistant Advertising & Publicity Officer.

Mr. E. P. Hardy, hitherto Progress Engineer at the Board's Acton Works, has been appointed Progress & Planning Engineer, Department of the Chief Mechanical Engineer (Railways), L.P.T.B.

We regret to record the death, at the age of 69, of Mr. James Cadman, D.S.C., D.L., J.P., who was Chairman of W. G. Bagnall Limited until the recent acquisition of the whole of the shares of that company from Mr. Cadman by Heenan & Froude Limited.

Mr. F. Everitt, A.M.I.C.E., District Engineer, Crewe, L.M.S.R., who, as recorded in our September 5 issue, has retired, began his railway career with the Great Eastern Railway in 1902 in the District Engineer's Office, Stratford. He remained with that railway until 1912, when he transferred to the service of the L.N.W.R. in the Divisional Engineer's Office, Crewe. Mr. Everitt served with H.M. Forces from 1915 to 1919, obtaining a commission with the Royal Engineers and seeing service in France and Salonika. In 1931 he was appointed Assistant to the District Engineer, Crewe, and in March, 1939, was promoted District Engineer, Crewe.

Cleaning London Transport Stations

In the belief that brightness is an essential part of efficiency, London Transport has decided to restore Underground stations, as far as materials permit, to their pre-war standards of appearance. Contracts have just been placed as a first step for the renovation of six Underground stations—Piccadilly Circus, St. James Park, Holborn, Edgware Road, Golders Green, and Boston Manor. The work will include complete repainting, re-distemping and incidental essential repairs. Work will be begun on all stations within the next few weeks, and it is hoped to complete it by the end of the year. More stations will be renovated in 1948.

It has been decided also that, in future, every Underground station is to be spring-cleaned thoroughly on a fixed yearly schedule. The whole station will be washed down from top to bottom once a year; booking halls will be washed every three months and the ceilings of escalator tunnels dusted once a month. This station maintenance programme, which is in addition to the daily cleaning by station staff, was the normal practice in pre-war years, but had to be dropped during the war.

As a preliminary, special "de-griming" parties are washing seven years' accumulation of London smoke from stations all over the system. Two-thirds of the stations have been tackled, those where work is going on at present being Hounslow, Baker Street (Bakerloo), Liverpool Street (Metropolitan), Aldgate East, Angel, Moorgate, Kings Cross (Metropolitan), Kings Cross (Piccadilly and Northern), Highgate, Chancery Lane, Trinity Road, and Tooting Broadway. The work is being carried on at night with a force of 100 men.

A Royal Engineers' "At Home"

An open day at the Royal Engineers' Transportation Training Centre, Longmoor

Although on several previous occasions there have been invitation visits to the Royal Engineers' Transportation Training Centre at Longmoor, for the first time in its history of over forty years the Longmoor Camp was thrown open to the public on Wednesday, September 3, from 12.30 to 6 p.m. A frequent service of trains on the military railway between Liss and Longmoor, and between Bordon and Longmoor, was provided, and visitors were conveyed free. A profusely illustrated programme was sold to the public, price 6d., which contained a plan of Longmoor Camp, a sketch map of the Longmoor Military Railway, and a timetable. The Longmoor military railway is well known to most of our readers, and was fully described in our issue of July 5, 1946, and this article was reprinted in pamphlet form and copies are still available.*

Among the items of special interest placed on public view were: mobile work-

shop train, 45-ton steam crane, locomotives, old and new, barrack block, cookhouse, locomotive running shed, workshops, museum, movement control model room. There were demonstrations every half-hour of working of Westinghouse and vacuum brakes, and a permanent way gang slewing a curve. There was a drill display every hour and a physical training display every half-hour. At a charge of 6d. each there were conducted visits every half-hour over the signal school; rides on the footplate every 15 minutes from Longmoor down station, and every 10 minutes on the "old-fashioned" train.

Brigadier R. Gardiner, C.B.E., the Commandant at Longmoor, in the course of a speech to press representatives stated that this was the first time an attempt had been made to organise an "At Home" for the general public, and to show them something of the many activities of the Corps of Royal Engineers. Longmoor was the home of the transportation branch of the Royal Engineers and the centre in which officers and men were trained in the special

trades necessary to carry out the construction, operating, and maintenance of railways, ports, and inland water transport facilities required for military operations. Longmoor was also responsible for the training of personnel of the Movement Control Service. At Marchwood, on Southampton Water, they dealt with port and inland water transport trades, and also carried out training in heavy bridging. The illustrated programme which had been prepared emphasised the wide variety of trades the centre had to deal with.

Brigadier Gardiner stressed, particularly, the fact that practically all the trades taught were exact counterparts of civilian ones, and it followed that a man entering this branch of the R.E. services gained his most valuable instruction and experience in trades for which there was at the present time a wide demand. Thus, the national service period of a man already started on a railway or port career would be in no way a waste of time from the point of view of his civilian work. In fact, some of the training provided at Longmoor and Marchwood was as good as any to be found outside the army.

The regular Sapper was, of course, trained in wider fields of military engineering, as he must be suitable for posting in any type of R.E. unit. For the benefit of regular officers of the Royal Engineers who wished to specialise in transportation, long courses lasting two years, of which half were spent at Longmoor and half at the different departments of civilian railways and ports, had been instituted.

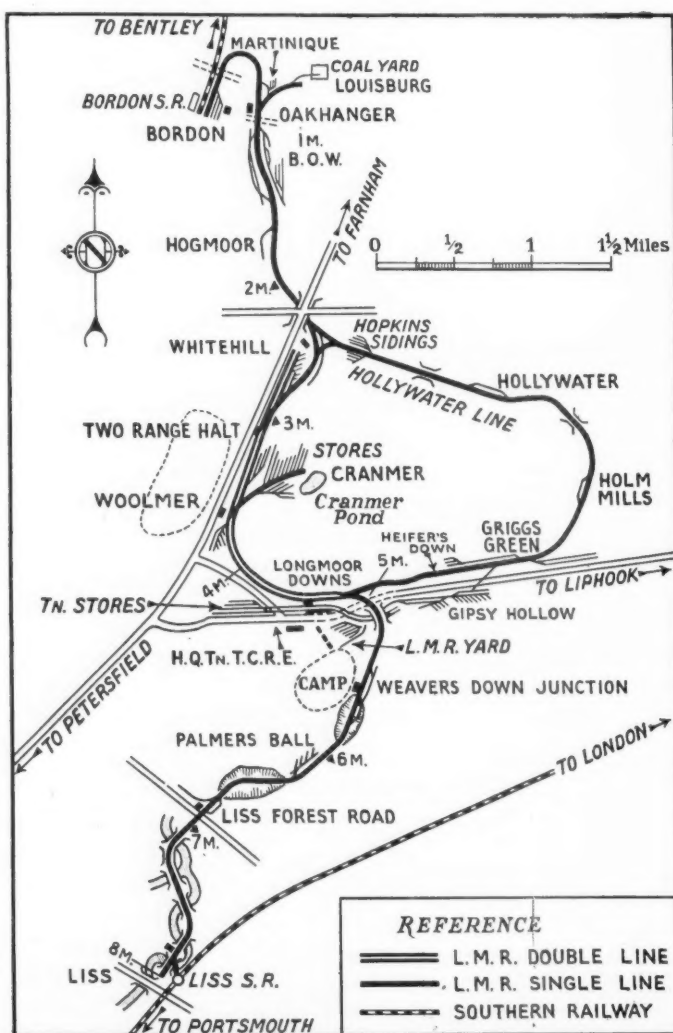
Continuing, Brigadier Gardiner said that, although they were specialists in transportation, they were still very much Sappers, and as such must never forget the military aspect of their profession. For this reason, they had included in the programme in the afternoon, drill displays and P.T. displays, and would end the day with "Retreat" at 6 p.m. Although not mentioned in the programme, they would like all to see the Garrison Church with the commemorative windows presented by the main-line railway companies and the London Passenger Transport Board.

Scottish Office for Industrial Research

A Scottish office has been opened by the Department of Scientific & Industrial Research at 18, Melville Street, Edinburgh, for the purpose of studying the Scottish industrial position, assisting in the formulation of problems suitable for research, and applying existing research facilities as effectively as possible to Scottish needs.

The importance of the contribution research can make to industrial progress will be brought to the notice of those concerned, and advice will be available to those firms wishing to build up their own research units. Steps will be taken to ensure that the discoveries in pure science which may be capable of industrial application are not overlooked.

Dr. H. Buckley will be in charge of the Edinburgh office. A graduate of Manchester University, he was on the staff of Toronto University before serving for 25 years with the National Physical Laboratory, where his special field of research was photometry and illumination. During the recent war, Dr. Buckley was for a time a liaison officer at the British Commonwealth Scientific Office in Washington, and for the past three years has been with the Intelligence Division of the Department of Scientific & Industrial Research.



Sketch map of the Longmoor Military Railway

* Longmoor Military Railway: 2s. *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1

An Institute of Transport Conference at Derby

This week-end the Institute of Transport is holding a conference at Derby, where the L.M.S.R. School of Transport, of which Brigadier L. Manton is Principal, has been placed at the disposal of the delegates both for meetings and accommodation. The conference opens this evening (Friday) with a dinner at 7 p.m., which will be followed by a meeting.

On Saturday morning, at 10 a.m., the delegates will attend a demonstration of the model railway as an instrument of instruction in railway working, and in the afternoon, at the invitation of the Trent Motor Traction Co. Ltd., there will be an excursion to Bakewell, which will include a visit to Haddon Hall and tea at Dove-dale. In the evening there will be a discussion of two short papers by Mr. M. R. Bonavia, Assistant to the Chief General Manager (Public Liaison), L.N.E.R., and Mr. G. J. Ponsonby, London School of Economics.

On Sunday afternoon, at 2.30 p.m., meetings of the discussion group will be held, when one of the subjects to be dealt with will be the basis of charging, with Mr. J. S. Nicholl, Past-President of the Institute, as discussion leader. In the evening there will be a film show.

Luxembourg Railways Convention is Approved

Early in August, the Luxembourg Chamber gave its approval, after a short debate, to the convention of April 17, 1946, concluded with Belgium and France relating to the Luxembourg railways. A few days later the Belgian Senate followed suit. The adoption of this convention terminates lengthy proceedings in which Luxembourg, France, and Belgium were involved, concerning the working of the Luxembourg railways. As described in *The Railway Gazette* for October 23, 1942, the Guillaume-Luxembourg Railway (now totalling about 160 route-miles) was taken over by the Imperial German Alsace-Lorraine Railway Administration after the Franco-German war of 1870. When, in 1918, the Guillaume-Luxembourg Railway was placed under the administration of the French Alsace-Lorraine Railway Company, the Belgian Government protested against this transfer and was successful in preventing the latter being sanctioned by a special article which it was intended to insert in the Versailles Treaty. Subsequent negotiations between Belgium and France to solve this problem failed to adopt the Belgian point of view, and the French Railways worked the Guillaume-Luxembourg system up to May, 1940.

The subsequent developments were outlined in the article referred to above.

After the liberation of Luxembourg in the autumn of 1945, the Luxembourg Government placed the Guillaume-Luxembourg system and the Prince Henri system (120 route-miles) under State administration, at the same time notifying the Belgian and French Governments of its willingness to settle the question finally. After protracted negotiations between the three Governments, a convention was concluded on April 17, 1946, establishing the Société Nationale des Chemins de fer Luxembourgeoise (see *The Railway Gazette* of October 19, 1945). The share capital of the new undertaking (800 million Belgian francs) was to be held by the Luxembourg State administration to the extent of

51 per cent., while Belgium and France were each to take over a share of 24½ per cent. The board of the new company consists of eleven Luxembourg members, five Belgians and five French.

One setback, however, has been that the former concessionaire of the Prince Henri system has not yet approved the transfer of that system to the Société Nationale des Chemins de fer Luxembourgeoise. This refusal is said to derive from the fact that the Luxembourg Government declines to pay compensation for withdrawing the concession, on the grounds of conclusions arrived at by a commission of Swiss experts. Basing its views on the deficits recorded by the railway over a long series of years, the commission held that the concession had proved valueless. The company's view, on the other hand, is that the series of deficits has been caused by the economic policy pursued by the Grand-Ducal Government.

In this connection, it may be recorded that the management of the Luxembourg Railways has received considerable criticism from the Belgian Senate Commission for Communications. The point is made that expenditure on staff is excessive. It has been stated that there are 5,900 railway officials and clerks in the service, as compared with 4,200 railway officials on the retired list, and that the personnel has been increased by 10 per cent. since May, 1940, although traffic has declined by 50 per cent. in the same period! Subsequently, the Luxembourg Government expressed its willingness to take over part of the financial burden of pensions.

In the course of the recent debate in the Belgian Senate, it was stressed that the convention proved particularly advantageous to Belgium, because it enabled the Belgian goods rates for consignments in transit to Belgian ports to be applied to consignments originating from countries beyond Luxembourg, thus attracting additional transit traffic, from which Belgian shipping also will benefit.

Additions to York Railway Museum

During recent months some exhibits of historic railway interest have been added to the collection in the Railway Museum of the L.N.E.R. at York. The largest is 4-4-0 locomotive No. 1621 of the former North Eastern Railway, which, due for scrapping, has been spared and repainted in its original grass-green livery, complete with coats of arms on the tender.

This engine figured in the record run of the East Coast companies from Kings Cross to Aberdeen on the night of August 21-22, 1895, when, hauling the 8 p.m. train from Kings Cross to Aberdeen, the 80½ miles between York and Newcastle were run at an average speed of 61.5 m.p.h. A sister engine, No. 1620, took the train on to Edinburgh and accomplished the 124½ miles between Newcastle and Edinburgh at an average speed of 66 m.p.h.

Four interesting signals also have been added to the York collection, consisting of a Great Northern centre-balanced or "somersault" type signal, a North Eastern slotted post signal, a Stevens-type disc signal, and an old level-crossing gate signal off the former North British Jedburgh branch.

Two extinct heraldic devices also have been preserved. One of these is the only known example of a mounted transfer of the coat of arms of the Lancashire, Derby-

shire & East Coast Railway, which was taken over by the former Great Central in 1907. The other is the coat of arms of the Great Northern Railway as displayed on the splashers of the trailing coupled wheels of L.N.E.R. Atlantic No. 2872 (formerly No. 1442 and the Royal train engine of the Great Northern), which was built at Doncaster in 1908, and was displayed alongside Stirling's 4-2-2 No. 1, the pioneer 8-ft. single of the Great Northern, in the machinery hall at the Imperial International Exhibition at Shepherd's Bush in 1909.

This Atlantic was unique in that throughout the 24 years it ran on the L.N.E.R. (by whom it was renumbered 4442, and, latterly, under a renumbering scheme, 2872) it bore the coat of arms of its original owner. The fact that it was decorated with this heraldic device was unusual, for, so far as is known, only one other Great Northern engine—4-4-0 No. 400—ever was embellished similarly. No. 2872 was scrapped this year.

Pennsylvania Developments in X-Ray Testing

A new X-ray laboratory embodying the latest technique for examining steel, aluminium, brass, and other metals used in rails, locomotives, and rolling stock has been opened by the Pennsylvania Railroad. It is stated that rapid wartime technical progress in the field of radiographic testing of metals for internal flaws has been utilised by the railway in developing the new laboratory and its techniques.

In the new X-ray plant, which is an addition to the Pennsylvania Railroad Test Department at Altoona, photographs are taken through metals to provide assurance against such internal defects as concealed cracks, imperfectly welded joints, cavities due to shrinkage of metal during cooling, and so on. To use this new technique, the Pennsylvania has secured a 250,000-volt mobile X-ray machine, mounted on wheels so that it may be used either in the specially-constructed laboratory building, or, when some very large object such as a locomotive boiler is to be examined, in the adjacent construction and repair shops of the Altoona works. It can examine the internal structure of metals as much as 3 in. thick.

The laboratory building, equipped with 18-in. thick solid concrete walls to permit the use of X-ray equipment as powerful as 2,000,000 volts, includes a dark room for immediate development of X-ray photographs, and equipment for projecting them for close examination by engineers trained in detecting the slightest flaw revealed by the photographs.

X-ray testing of metals is particularly helpful in examining welded metal parts, because it permits the weld to be examined in minute detail without damaging the metal. This is especially important because of the increasing use of welding as a more efficient means of constructing high-pressure locomotive boilers, frames for diesel-electric locomotives, fabricated cylinders for steam engines, passenger and freight bogie frames, and other parts.

The Pennsylvania plans also to instal a permanently-mounted X-ray machine of 1,000,000-V. capacity in the laboratory building, augmented by the 250,000-V. mobile machine already in operation. Training of sufficient numbers of operating technicians and full development of a wide range of testing techniques will precede the installation of the more powerful apparatus.

Staff and Labour Matters

L.P.T.B. Wages Agreement

An agreement has been signed between representatives of the London Passenger Transport Board and of the National Union of Railwaymen, the Railway Clerks' Association, and the Associated Society of Locomotive Engineers & Firemen, which gives improved rates of pay and a reduced working week to approximately 15,000 of the Board's railway staff.

Rates of pay have been increased by 7s. 6d. a week. The 48-hour week, which does not include Sunday, has been reduced to a 44-hour week. The unions have accepted the operation of an 11-day fortnight of 88 hours for trainmen, station staff, and booking clerks, and have also agreed to modifications in working conditions which will give a more efficient use of manpower.

These arrangements thus will enable one week-day rest day to be provided each fortnight. The considerable amount of Sunday work which public traffic requirements in London necessitate, will continue to be covered on an overtime basis outside a normal working week.

Until new duty rosters are worked out and the new arrangements can be implemented, the additional work will be done as overtime. The agreement is retrospective to June 30, 1947, and the arrears of pay due will be paid in a lump sum.

Meal Allowance and Permanent Way Men

The decision of the Chairman of the Railway Staff National Tribunal has recently been published on the following claim made by the N.U.R. and submitted to the Chairman by consent of the parties for decision on its merits:—

For a revision of the present agreement which determines the conditions to qualify permanent way men for payment of meal allowance to provide:—In the case of permanent way men the arrangements to apply to men working off their own lengths and situated at a distance of not less than one mile from the centre of their own length.

Railway Executive Committee circular letter No. 1,858, dated June 19, 1919, relating to the meal allowance for conciliation grades other than trainmen provided as follows:—1s. per day to cover expenses if away from home station during booked meal time (the amount of the allowance was increased to 1s. 6d. in 1944).

Clause 58 of the Third Memorandum on Points of Interpretation, dated July 1, 1921, provides as follows:—In the case of platelayers, the arrangement to apply to men when working off their own lengths and situated at a distance of not less than two miles from the centre of their own length.

N.U.R. and Companies' Contentions

It is contended by the N.U.R. that the arrangement recorded in clause 58 of the memorandum of July, 1921, and the exception of permanent way men from decision No. 18 (Ch.) by the Chairman of the Railway Staff National Tribunal constitute a hardship to permanent way men; that a uniform arrangement should apply, and any employee who is required to work more than one mile from his home station—in the case of permanent way lengthmen the centre of their own length—should be entitled to the meal allowance; and that, accordingly, the differentiation between permanent way lengthmen and other conciliation staff in so far as qualification for the payment of meal allowance is concerned should in equity be removed.

The railway companies contend that,

since conciliation grades other than permanent way staff in length gangs ordinarily have a fixed point at which to book on and off duty, whereas permanent way staff may book on or off at different points on their lengths, there is clearly a fundamental difference between the booking on and off arrangements for permanent way length staff and other conciliation grades, and that it was that fact which gave rise to the different basis for payment of meal allowance.

They also contend that the present basis for permanent way staff is as much in line with the arrangements for conciliation grades generally as the different circumstances permit; that no change has taken place in the circumstances of permanent way length gangs since the arrangement recorded in clause 58 of the memorandum referred to which, in itself, would justify an alteration in the arrangements covered by that agreement; and that in all the circumstances the present basis for payment of meal allowance to permanent way length staff is reasonable and should be continued.

The Chairman awards that permanent way staff working off their own lengths and at a distance of not less than one mile from the centre of their own length shall qualify for the payment of meal allowance for conciliation grades other than trainmen.

Rolling Stock Problems in Italy

The Italian State Railways have at present some 87,000 goods wagons in operation. Of these, however, about 26,000 belong to foreign railways and will have to be returned to them in accordance with the provisions of the Peace Treaty. Thus, the goods rolling stock of the Italian State Railways will be reduced to approximately 60,000 units, or some 43 per cent. of the total available in 1943. In other words, this means about half the rolling stock required to cope with the average demand.

Foreseeing this reduction, and following their general post-war policy of building up their goods rolling stock, the Italian State Railways ordered about 20,000 wagons from the Italian wagon-building industry several months ago. Owing to the limited supplies of coal and steel, as well as to the shortage of skilled manpower, less than 4,000 wagons had been delivered by mid-August, but it is believed that the balance will be delivered by the Spring of 1948 provided the coal and steel position improves in the near future, and more labour becomes available.

Other measures, including the rationalisation of manufacturing processes, are envisaged to increase the output capacity of the wagon-building industry, which at present does not exceed 50 per cent. of the normal standard.

The order mentioned above comprises also 500 refrigerator vans to be delivered by Fiat, the Officine di Savigliano, and the Officine Reggiane, and valued at some 2,000 million lire (approximately £870,000 at the present rate of exchange).

Much concern is felt also at the low stock of carriages. This has been reduced to some 1,500 units, as against 7,900 in 1943. Only 9 out of 180 carriages ordered have been delivered so far, and all endeavours to obtain 200 carriages from those which have been set apart for Allied purposes are said to have proved unsuccessful. It is stated that the railways contemplate placing orders for carriages with foreign firms in order to improve the position at a quicker pace.

Railways in the U.S.S.R.

At the celebration of what in Russia is known as "Railwayman's Day" (August 10), Mr. I. Kovalyev, the Minister of Communications of the Soviet Union, published a lengthy survey of the progress attained by the Russian railways in the post-war period.

Special attention has been given in the post-war development of the railways to the building of new lines and to the improvement of existing ones. The capital outlay involved in this connection amounts to 5,000 million roubles so far. A new line has been built in the Northern Ural region between Alapayevsk and Sosna, and in Kazakhstan, the extensive republic bordering on the western frontier of China, the line from Dzhambul to Tchulak-Tau has been completed. Also in Kazakhstan, the building of the railway between Moity and Chu (about 350 miles) has been resumed. Another line stated to be building in Kazakhstan is to connect Semipalatinsk, on the Turksib line, with Lake Malinovo, close to the western Chinese frontier. The routes of these lines can be traced on the maps published in our issues of December 10, 1943, and May 25, 1945.

Second track (dismantled for wartime and post-war necessities) has been relaid on the Moscow-Leningrad line (404.2 route-miles), on the Moscow-Tula-Khar'kov-Rostov-on-Don line (837 route-miles), and on the Rostov-on-Don-Prochladnaia section (375 route-miles) of the main line to Baku. In Kazakhstan, second track has been laid on the 150-mile Akmolinsk-Karaganda section of the Ufa-Moity main line.

Notable progress has been made in the rehabilitation of railways in the war-stricken areas. Bridges reopened to traffic number 995; 1,403 route-miles of line have been equipped with automatic block signalling; and over 62 route-miles have been electrified.

In 1946, the first year of the post-war Five-Year Plan, railways in the Soviet Union fulfilled the targets which had been set them. As compared with 1945, the work done achievement went up by 13 per cent., and the loading of coal exceeded the level attained in 1940. The turn-round of wagons improved considerably, showing a decrease of more than 20 hr. A pre-war level of passenger traffic was reached.

The aim for 1947 is to increase loadings in general by 11 per cent. as compared with 1946. With this in view, and to compensate for shortcomings in the first quarter, an average of 14,000 more wagons should be loaded per 24-hr. period during the third and fourth quarters as compared with the average reached during the first half of the year. This aim was fulfilled in July. To enable rolling stock to be used to the utmost for this purpose, sufficient spare parts, components, and other materials were made available for the maintenance of 250,000 wagons.

New construction and other capital outlay is to absorb 6,000 million roubles during 1947. According to the Minister, the 1947 plan envisages the taking in hand of new lines totalling 761 route-miles, and the laying of 785½ miles of second track, as well as the electrification of 298 route-miles.

The same plan entails the building of 1,740 bridges, the installation of automatic block signalling on 993.6 route-miles of line, and the laying of 496.8 miles of line in stations and sidings. The Ural region, Siberia, and the Donbass region account for most of this vast programme.

Notes and News

Production Engineer Required.—An experienced production engineer is required for Tatanagar Workshops, Behar, India. See Official Notices on page 307.

George Bennie Airspeed Railway.—Among the exhibitors at the Engineering & Marine Exhibition at Olympia is the George Bennie Airspeed Railway Company of Glasgow, which owns the patents of the George Bennie Railplane. The exhibit is on the same stand as Chadburns (Liverpool) Limited.

Civil Engineering Assistant Required.—A civil engineering assistant is required by the Crown Agents for the Colonies for the engineering designs department at their London office. Candidates must be first class draughtsmen and have had considerable experience in a civil engineer's or a railway company's or a structural steelwork firm's drawing office. See Official Notices on page 307.

Accident at Marylebone, L.N.E.R.—A suburban train from High Wycombe ran into a van standing at the buffers at No. 2 platform, Marylebone Station, L.N.E.R., on September 4. Twenty passengers were taken to hospital, and others received first aid treatment on the station. Most of them had been standing up to alight from the train when the collision occurred. The driver stated that, when entering the station, the wheels of the engine locked and skidded so that he was unable to avert a collision.

Richard Thomas & Baldwins Limited.—At the general meeting of Richard Thomas & Baldwins Limited, the Chairman & Joint Managing Director, Mr. E. H. Lever, recalled the registration on May 1 this year of the Steel Company of Wales. This was in connection with the scheme of the company and allied firms for the erection of new strip mills in Wales. The main purpose of the undertaking, which forms part of the five-year plan of the iron and steel industry, was to complete the modernisation of tinplate manufacture in this country, and to take a further substantial step towards the modernisation of the sheet trade. Negotiations for the provision of finance from outside sources to help towards meeting the cost of £60 million re-

quired for new construction were very near completion. In addition, the company was contemplating substantial capital expenditure over the next few years for further expansion and modernisation, but expected to be able to finance all these developments from present or anticipated internal sources.

Hurst Nelson & Co. Ltd.—The net profit of £100,421 shown for the year ended July 31 last represented an increase of £48,006 over 1945-46. After allocating £10,000 to general reserve and carrying forward £46,623, as against £16,802 brought in, the directors recommend a final ordinary dividend of 15 per cent. The total distribution for the year, therefore, will be 20 per cent., as against a 15 per cent. dividend plus a 2½ per cent. victory bonus for 1945-46. In addition, it is proposed to make a special distribution of 50 per cent. from a surplus realised on the sale of investments.

Fuel Oil Technical Address.—As from September 1 the address of the Fuel Oil Technical organisation of the Shell Petroleum Co. Ltd. has been 70-72, King William Street, London, E.C.4, the organisation having moved from its wartime address at St. Helen's Court. The telephone number is Avenue 4321, and correspondence should continue to be addressed to the Shell Petroleum Co. Ltd., Fuel Oil General/Technical, St. Helen's Court, Great St. Helens, London, E.C.3. The Fuel Oil Technical Experimental Station will remain at 25, Bagley's Lane, Fulham (telephone, Renown 1234).

Memorial Plaque to Timothy Hackworth.—To remind posterity of Timothy Hackworth's association with early railway development in North Eastern England, the L.N.E.R. recently has installed a commemorative plaque at Soho House, the building in which he lived and worked at Shildon. The plaque is inscribed as follows:—

STOCKTON & DARLINGTON RAILWAY

TIMOTHY HACKWORTH

who built the Royal George locomotive

lived in this house from

1833 to 1850

The plaque consists of a cast-bronze plate, with raised letters and motif modelled in low relief.

Anglo-Scottish Railways Assessment.—The annual report for the year to March 31, 1947, of the Anglo-Scottish Railways Assessment Authority has now been issued, and contains the proceedings of the Authority under the Railways (Valuation for Rating) Acts, 1930 & 1946. Copies, price 6d. each, may be obtained from the Anglo-Scottish Railway Authority, 32, Queen Anne's Gate, London, S.W.1.

Engineering Assistant—Carriage and Wagon (Senior) Required.—An engineering assistant, carriage and wagon (senior) is required by the Crown Agents for the Colonies for the engineering designs department at their London office. Candidates should have passed the Associate Membership examination of the Institution of Mechanical Engineers or hold equivalent exempting degree. See Official Notices on page 307.

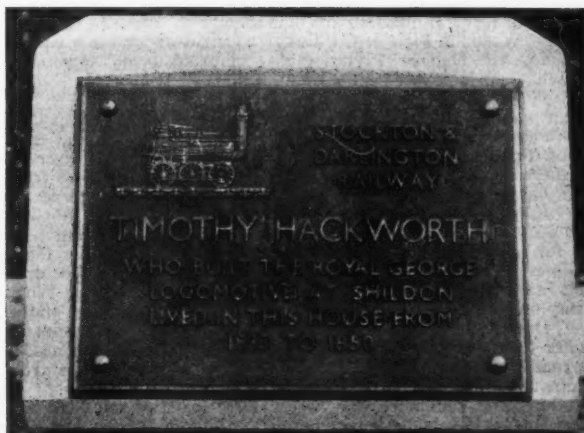
Government Claim Against U.S. Railways.—Reuters reports from Washington that the U.S. Government has filed a claim for \$30,000,000 to \$40,000,000 (£7,500,000 to £10,000,000) against 717 U.S. railways for alleged overcharges on wartime shipments of explosives and ammunition. This was the eighth in a series of complaints which the Department of Justice has made against the railways. Hundreds of millions of pounds are involved.

Rhodesia Railways Limited.—In his speech at the fiftieth ordinary general meeting of Rhodesia Railways Limited, the Chairman, Mr. Arthur E. Hadley, said that the Southern Rhodesian Government had purchased from the Rhodesia Railways Trust Limited the entire share capital of the company, the change of ownership taking effect as from March 31 last. As part of the arrangements, dividend for the year ended September 30 last, and half the dividend for the year ending September 30 next, would be payable to the Rhodesia Railways Trust Limited. Legislation was being drafted under which the Rhodesia Railways would be operated in future by a statutory board to be set up in Southern Rhodesia. Operating the system continued to present great difficulties on account of shortages of locomotives, rolling stock, material, and staff. Shipment was now being made of 10 locomotives, ordered in Great Britain nearly two years ago, and of

Timothy Hackworth Memorial Plaque



Soho House, Shildon, where Timothy Hackworth lived and worked



The bronze plaque to Timothy Hackworth erected in front of Soho House as shown on the left

300 wagons ordered here over a year ago. Early next year a further 20 locomotives and 100 vans were due for delivery. The new stock now being shipped, while far short of the full requirements, would, it was hoped, assist considerably their General Manager, Sir Arthur Griffin, to whom they wished every success in his new and difficult post.

Emu Bay Railway Co. Ltd.—This Tasmanian system, which consists of 88 miles of 3-ft. 6-in. gauge line, showed revenue for the year ended December 31, 1946, of £121,352. After meeting working expenses, depreciation, and provision for upkeep of rolling stock, there was a credit balance of £7,419. The carry-forward from the preceding year was £11, and £5,890 has been appropriated as interest on the 4½ per cent. debenture stock for the year. The sum of £1,517 is shown as provision for exchange on the above interest, leaving £22 to carry forward.

Repainting Saltash Bridge, G.W.R.—The Royal Albert Bridge, Saltash, which carries the G.W.R. West of England main line over the River Tamar between Devon and Cornwall, is to be repainted. Because of shortage of material, only the most exposed parts of the bridge will be dealt with. These will be given three coats of paint after a thorough cleaning and scaling. The most difficult parts to repaint will be the two large tubular trusses which form the centre spans, each of which is 455 ft. long and big enough to take a motorcoach inside. The men painting those spans will be lowered over the top in 'bo'suns' chairs.

Darlington Railway Plant & Foundry Co. Ltd.—In the year ended April 30, 1947, a net profit of £8,388 was shown, and after adding the balance brought forward from the previous year, the sum of £10,433 is available for distribution. An allocation of £2,500 has been made to general reserve, and interim dividends of 2½ per cent. on the preference shares and of 5 per cent. on the ordinary shares, both less tax, have taken £1,334. The directors propose a final preference dividend of 2½ per cent., less tax; and a final ordinary dividend of 10 per cent., less tax, plus a bonus of 5 per cent., making 20 per cent., less tax, for the year. After payment of dividends there remains a balance of £2,106, comparing with £2,045 brought in from the preceding year.

Future of Private Owners' Wagons.—Speaking at the general meeting of the North Central Wagon & Finance Co. Ltd., the Chairman, Mr. Duncan Taylor, said that under the Transport Act their railway wagons would, with few exceptions, pass to the Transport Commission on January 1, 1948, in exchange for compensation in the form of Transport stock. The board regretted the end of private ownership of railway wagons, with which their company had been associated for more than 86 years, but they considered that the compensation for railway wagons, as a result of their conservative policy in depreciating their assets in the past, would ensure a substantial surplus on the book value of their wagons. On December 31 next, they would suffer the severance of their long-distance road haulage business, and to meet requirements of customers in industry, agriculture, and commerce they were asking stockholders to sanction an increase to £4 million in the company's borrowing powers. The loss of their railway wagon and road haulage business would involve contraction in their capital employed, and

in revenue, but the Chairman hoped that next year he would be able to report satisfactory progress towards replacement of the business of which they would be deprived by the Transport Act.

Draughtsman Required.—A draughtsman is required in London by the Tata Locomotive & Engineering Co. Ltd. for plant layout work. See Official Notices on page 307.

G.W.R. Vessel in Channel Islands Service.—The ss. *St. David*, newest G.W.R. vessel, has been switched from the Irish service to the Channel Islands service, and replaced the *St. Helier* with the sailing from Weymouth on September 4. The *St. David* has accommodation for 1,300 passengers, 52 motorcars, 350 tons of freight, and sleeping quarters for 355 in single, double, or open berths and luxury cabins.

Traffic Inspector for Nigeria.—Particulars are given in our Official Notices on page 307 of a vacancy for a traffic inspector for the Railway Department of the Government of Nigeria for one tour of 18 to 24 months with possible permanency. Applicants must have had experience on a home railway of goods and passenger station work and accounts, telegraph offices and marshalling yards, and must be qualified, also, in train working under the absolute block system and in railway signalling.

Caledonian Centenary Exhibition.—To celebrate the centenary of opening for public traffic of the first section (Carlisle to Beattock) of the main line of the Caledonian Railway, the L.M.S.R. is arranging an exhibition in conjunction with the Art Galleries Committee of Glasgow Corporation. This will include model locomotives, paddle steamers, photographs, and relics of the Caledonian Railway. The exhibition will be held in the Art Galleries from September 13 to 29. Further reference to the Caledonian Railway Centenary is made in an editorial note this week.

L.N.E.R. Train Ferry Activities.—The new L.N.E.R. train ferry, *Suffolk Ferry*, made her maiden trip from Harwich to Zeebrugge in the early hours of September 3, taking a cargo of general merchandise and returning empty wagons. On September 2 the other L.N.E.R. train ferry, *Essex Ferry*, sailed with a similar cargo together with L.N.E.R. mixed-traffic electric locomotive No. 6000. This locomotive was built for the Manchester-Sheffield electrification scheme, upon which work now has been resumed, and is being lent to the Netherlands Railways for extended trials.

Progress at Wood Lane Station, London Transport.—Eastbound trains on the Central Line have been diverted to a new track outside Wood Lane as from September 6. The diversion carries trains from Greenford and Ealing through the site of the new Wood Lane Station, which is being built 350 yd. north of the existing station and is to be opened before the end of the year. When the new Wood Lane Station is completed, its long platforms will allow seven- or eight-car trains to run throughout the Central Line instead of the existing six-car trains, thus giving better peak-hour accommodation. Already 15,000 lorry loads of soil have been excavated in the building of the new station. The platforms are being completed, and a beginning is being made on a temporary booking hall, which will be replaced by a permanent structure when materials permit.

R.E. Transportation Units, S.R.—In the course of his speech to press representatives at the Royal Engineers' "At Home" at Longmoor last week, the Commandant, Brigadier Gardiner, made the following announcement: "A pre-war activity of this Centre which we hope to renew very shortly is the administration and annual training of the Supplementary Reserve Transportation Units. These Units are the equivalent of the Territorial Army and this Centre is the venue of their annual training camps. Arrangements for the

British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices	
			Sept. 9, 1947	Rise Fall
G.W.R.				
Cons. Ord.	61½	54½	52	—
5% Con. Pref.	126½	107	113½	—
5% Red. Pref. (1950) ..	106½	102½	98½	—
5% Rt. Charge	140½	122½	127½	—
5% Cons. Guar.	137½	118½	124½	—
4% Deb.	129½	106	117½	—
4½% Deb.	129½	107	118½	—
4½% Deb.	130½	114	119½	—
5% Deb.	142½	125	130½	—
2½% Deb.	95½	81½	88½	—
L.M.S.R.				
Ord.	30½	26½	26½	—
4% Pref. (1923)	64	52½	56	—
4% Pref.	86	75½	76	—
5% Red. Pref. (1919) ..	105½	97	96½	—
4% Guar.	108½	100	97	—
4% Deb.	120	103	108	—
5% Red. Deb. (1952) ..	108½	105½	101½	—
L.N.E.R.				
5% Pref. Ord.	7	5	6½	—
Def. Ord.	3½	2½	3½	—
4% First Pref.	59½	50½	52	—
4% Second Pref.	29½	25½	26	—
5% Red. Pref. (1955) ..	104	97	93½	—
4% First Guar.	107	98	96½	—
4% Second Guar.	101	90	90½	—
3% Deb.	104	87½	94	—
4% Deb.	119½	102½	108	—
4½% Sinking Fund				
Red. Deb.	107½	101½	99½	—
SOUTHERN				
Pref. Ord.	79½	70	69½	—
Def. Ord.	24	19½	21½	—
5% Pref.	125½	107	112½	—
5% Red. Pref. (1964) ..	115½	106½	105½	—
5% Guar. Pref.	137½	119	124½	—
5% Red. Guar. Pref. (1957) ..	115½	107½	104½	—
4% Deb.	129½	105½	117½	—
5% Deb.	139½	125	128½	—
4% Red. Deb. (1962-67) ..	113½	104½	103½	—
4% Red. Deb. (1970-80) ..	115½	104½	105½	—
FORTH BRIDGE				
4% Deb.	109	103	99½	—
4% Guar.	105	102	95½	—
L.P.T.B.				
4½% "A"	133½	120½	121½	—
5% "A"	142½	130½	130½	—
3% Guar. (1967-72) ..	108	98½	97	—
5% "B"	128½	117½	117½	—
5% "C"	64½	56½	59½	—
MERSEY				
Ord.	34	30	32½	—
3% Perp. Pref.	76	69	68½	—
4% Perp. Deb.	117½	103	107	—
3% Perp. Deb.	98	81	89½	—
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	—
G. NORTHERN				
Ord.	41½	30½	25½	—
Pref.	63½	52	40	—
Guar.	97½	78½	72½	—
Deb.	107	97½	96½	—
IRISH TRANSPORT				
Common	19/2½	16/9	14/-	—
3% Deb.	107	100	101	—

* Latest available quotation

OFFICIAL NOTICES

Crown Agents for the Colonies

ENGINEERING ASSISTANT—CARRIAGE AND WAGON (Senior) required by the Crown Agents for the Colonies for the Engineering Designs Department at their London office. Salary scale £400 × £18 × £525 per annum. Commencing salary fixed according to qualifications, experience and age. Appropriate consolidation addition at Civil Service rates payable amounting to £90 per annum. Extra duty allowance also payable amounting to 8 per cent. of annual salary and consolidation addition. The post is not pensionable but there is an Office Gratuities Scheme.

QUALIFICATIONS. Candidates should have passed the Associate Membership examination of the Institution of Mechanical Engineers or hold equivalent exempting degree. They must have served an apprenticeship or pupilage in a Carriage and Wagon department of a British Railway Company or firm of Carriage and Wagon manufacturers with subsequent drawing office experience.

DUTIES. Preparation of tenders and specifications, examinations and approving drawings, calculations, technical correspondence. A sound knowledge of modern manufacturing methods, including fusion welding, is desirable.

Write, stating age and full particulars of qualifications and experience, to Box 1,018, c/o WHITES, LTD., 72, Fleet Street, London, E.C.4, quoting 6/154. Applications must not be made to the Crown Agents direct.

STEEL STRUCTURES purchased, dismantled and removed. Industrial steel structures re-built, re-erected and renovated. Steel factory buildings dismantled, re-erected or adapted on other sites.—**BRITMAN HINGERS LIMITED**, Terminal House, Grosvenor Gardens, London, S.W.1. Sloane 5259.

DRAUGHTSMAN required in London for PLANT LAYOUT work with experience of foundry equipment and conveyors. Salary according to qualifications.—Apply **TATA LOCOMOTIVE AND ENGINEERING CO. LTD.**, 18, Grosvenor Place, London, S.W.1.

EXPERIENCED Production Engineer required for **Tatanagar Workshops**, Behar, India. Salary according to qualifications. Further particulars from **TATA LIMITED**, 18, Grosvenor Place, London, S.W.1.

raising of these units by the main-line railways and the ports and inland water interests are nearly complete, and we look forward to a ready response, not only from former members of the S.R. Units, but from the many railway and port men who served with our Units during the past wars."

Vacancy for Railway Engineer in South Africa.—A large South African engineering firm handling many railway specialities, including locomotives, requires the services of a railway engineer having sound technical experience and commercial and sales ability. See Official Notices above.

Institute of Public Administration.—This year the Institute of Public Administration celebrates its silver jubilee, and a dinner to commemorate the occasion has been arranged, to take place at the Dorchester Hotel, Park Lane, W.1, on October 28 next, when the Prime Minister will be the guest of honour; other guests will include the Russian, American, Belgian, and French Ambassadors and the High Commissioners for Australia, New Zealand, South Africa, and Southern Rhodesia. The Institute also has arranged a series of lectures, under the general title of "Administrative Problems of Government Today," the programme for which will include lectures on "Government and Industry" by Mr. Herbert Morrison, M.P. (Lord President of the Council), on November 4 next, when Lord Hyndley (Chairman of the National Coal Board) will take the chair, and on "Government and Trade" by Sir Stafford Cripps, M.P. (President of the Board of Trade), on December 2, when the chairman will be Sir Cyril Hurcomb (Chairman of the British Transport Commission). Sir John Anderson, President of

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—

TRAFFIC INSPECTOR required by the Government of Nigeria for the Railway Department for one tour of 18 to 24 months with possible permanency. Salary and expatriation allowance £600, rising to £800 a year. Outfit allowance £60. Free passages. Candidates, age 23 to 35, must have had experience on a home railway of goods and passenger station work and accounts, telegraph offices and marshalling yards and must be qualified in train working under the absolute block system and in railway signalling. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/17525 on both letter and envelope.

RE D. G. Hall & Co. Ltd. (in Compulsory Liquidation), Railway Wagon Repairers. Under instructions from R. W. Meacock, Esq., F.C.A., Newport, Receiver and Manager for the Debenture Holders.

FOR SALE BY TENDER

123 RAILWAY WAGONS.

at present requisitioned by the Ministry of Transport and producing a total rental of £80 17s. 4d. a month.

The Wagons will be offered in 3 Lots as follows:

Lot 1.—29 Wagons (10 Ton) producing rentals of £18 17s. a month.

Lot 2.—33 Wagons (10 Ton), producing rentals of £53 19s. a month.

Lot 3.—11 Wagons (12/13 Ton), producing rentals of £8 1s. 4d. a month.

Forms of Tender may be obtained upon application to either of the Auctioneers, and must be in their hands by 12 noon on Friday, October 10, 1947.

For full particulars apply to **MESSRS. THOMAS PARRY & SON, F.A.I.**, 22, Stow Hill, Newport, Mon., or to **MESSRS. STEPHENSON & ALEXANDER, F.A.I.**

RAILWAY ENGINEER required for large South African Commercial Engineering Company handling numerous well-known railway specialities, including locomotives. Must have sound technical experience to give service advice plus commercial and sales ability. Starting salary about £65-£75 per month, depending on experience.—Box 181, *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1

the Institute, is expected to give the concluding lecture (on May 4 next). The lectures will be given at King's College, Strand, W.C.2. Fees will be, for members 5s., and for non-members 12s. 6d. for the whole series, or 2s. 6d. for individual lectures; tickets are obtainable from 18, Ashley Place, London, S.W.1.

Green Line Services: Increase in Charges.—Charges on the Green Line coach services of the L.P.T.B. will be increased from their present level of 33½ per cent. over pre-war to 55 per cent. above pre-war with effect from October 1. This step is consequent on the increase in main-line railway charges to 55 per cent. above pre-war which will come into effect on that date.

Movement Control Club Dinner.—Major-General W. D. A. Williams, C.B., C.B.E., Director of Movements, War Office, presided at the second annual dinner of the Movement Control Officers' Club at the Connaught Rooms, London, on September 6, when some 200 past and present officers of Military Movement Control and their guests attended. The toast of "Movement Control" was proposed by Sir Ralph Ismay Metcalfe, formerly Director of Sea Transport, M.O.W.T., and that of "the Guests" was responded to by Air Commodore H. D. Jackman, C.B., C.B.E., Director of Movements, Air Ministry. At the annual general meeting which preceded the dinner, an encouraging growth in membership was reported, and it was resolved that the committee should explore the possibility of obtaining permanent premises in London. The existing officers were re-elected, with the exception that Lt.-Colonel G. H. Wharton, O.B.E., was elected Chairman in place of Lt.-Colonel

Crown Agents for the Colonies

ENGINEERING ASSISTANT—CIVIL required by the Crown Agents for the Colonies for the Engineering Designs Department at their London office. Salary scale £200 × £18—£400 (promotion bar) × £18—£525 per annum. Commencing salary fixed according to qualifications, experience and age. Appropriate consolidation addition at Civil Service rates payable, varying between £78 and £90 per annum. Additional allowances also payable—details furnished at interview. The post is not pensionable, but there is an Office Gratuities Scheme.

QUALIFICATIONS.

Candidates must be first class draughtsmen and have had considerable experience in a Civil Engineer's or a Railway Company's or a Structural Steelwork Firm's Drawing Office. They must be capable of preparing detailed designs of bridges and buildings in steel; some reinforced concrete experience would be an advantage. They should have passed the Associate Membership Examination of the Institution of Civil Engineers or the Institution of Structural Engineers or hold equivalent exempting degree.

DUTIES.

Calculations, designs and specifications of steel structures, including bridges and buildings and general civil engineering design work.

Write, stating age and full particulars of qualifications and experience, to Box 1,013, c/o WHITE'S, LTD., 72, Fleet Street, London, E.C.4, quoting 6/154. Applications must not be made to the Crown Agents direct.

THE RAILWAY HANDBOOK provides the railway student with a collection of useful statistics and information relating to the railways of Great Britain and Ireland. In addition, in matters of international interest, such as speed and electrification progress, the book extends its scope to cover the whole world in order to present a complete picture of these increasingly-important developments. 120 pp. Dy. 8vo. Paper covers. Price 5s. By post 5s. 3d.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiment. Eight single-acting cylinders with rotary valves. An application of the principles of the Williams central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. Price 2s. Post free 2s. 3d.

C. H. J. Aldworth, M.C., one of the founders of the club, who has reluctantly had to resign for personal reasons.

Transport Act, 1947, Now Published.—Copies of the Transport Act, 1947, are now obtainable, and may be purchased direct from H.M. Stationery Office, York House, Kingsway, London, W.C.2, or through any bookseller, price 3s.

Liverpool Overhead Receipts.—Aggregate traffic of the Liverpool Overhead Railway for the eight months to August 31, at £99,184, represented a decrease of £5,656. Returns for the seven days ended August 31 were £3,151, an increase of £232.

Wage Award for U.S. Non-Operating Staff.—Nearly 1,000,000 workers on the principal U.S. railways will benefit from an arbitration board award granting a wage increase of 15½ cents an hour, effective from September 1. The men had asked for a rise of 20 cents an hour. Under agreement between the unions and the railways, the findings of the arbitration board are binding on the parties. The award applies only to non-operating personnel, including clerks, telegraphists, maintenance staff, and others not employed directly in the running of trains, numbering about three-quarters of the total railway employees. Reuters reports from Washington, also, that on September 5 the U.S. railways asked the Interstate Commerce Commission to authorise freight-rate increases averaging 26·8 per cent. This petition supersedes that filed last July, when the railways asked for an increase of 17 per cent., and is intended to offset increased labour costs arising from the wages award. Because of the financial emergency, the railroads plan to request a temporary 10 per cent. increase now.

Railway Stock Market

Despite the coal strike news, stock markets rallied at the beginning of the week under the lead of a further recovery in industrial shares. Buying interest was more in evidence, but the volume of business generally showed no marked improvement, and in the circumstances, markets have remained very sensitive, with leading industrials prone to move several shillings either way on moderate buying or selling orders. Markets were hopeful of a better turn in the coal strike position, and have been awaiting the next part of the Government's crisis measures, particularly the new export targets, which must have an important bearing on the outlook for many companies.

It is realised that export targets and other measures designed to deal with the economic crisis will be ineffectual if adequate supplies of coal are not available. Consequently, news from the coalfields is awaited anxiously. Market sentiment, however, has had the help of revived hopes that interim American aid to Europe may be forthcoming before the winter, and just as share values in most sections recently slumped on relatively moderate selling, they have been inclined to go ahead strongly this week on a small revival of buying. The latter started towards the end of last week when Imperial Chemical, Dunlop Rubber and various other leading industrials came down to levels showing yields of virtually 5 per cent. on the basis of last dividend payments.

Home railway stocks have been more prone to move with British Funds than with industrials, and in common with the latter have moved moderately lower on

balance, despite their obvious attractions in view of the substantial discounts of current market prices in relation to the "take-over" levels. Between now and the end of the year home rails should approximate to the "take-over" levels, which would mean gains of up to £13 in some market prices. It would, therefore, not be surprising if home rails were to attract a good deal more attention before long.

There is renewed confidence that repayment of Argentine railway debentures and prior charges will be at the end of October or early in November, and a good part of the substantial sum arising from this may find temporary refuge in home railway stocks. Many of the shrewdly-managed investment trusts, which are big holders of Argentine rails, are believed to have in mind the temporary investment in home rails of Argentine railway moneys. The view that in the event of a big coal strike there would be prospects of a change in Government have led to vague talk in the City that after all the nationalisation of the railways may not go through. This assumption is not held in responsible quarters where it is contended that in any event present schemes in connection with the railways will be effected.

Moreover it is pointed out that, although in many cases they are well below their "take-over" prices, home railway stocks are now in effect governed by the nationalisation "take-over" terms, and with traffics at their current levels, market values of home rail stocks would be well below current prices if it were decided not to implement nationalisation.

There has been a better tendency in iron

and steel shares partly in accordance with the trend in industrials, and partly because of the Government decision not to introduce a Bill for nationalisation of the industry until after the next session of Parliament.

Buyers have been attracted by the large yields ruling in many cases and by the good prospects of dividends being maintained unless there were a serious fuel crisis in the winter. Moreover, it continues to be pointed out in the City that in the event of nationalisation, fair compensation would have to be on a basis well above the current level of share prices. Buyers, however, have been favouring Tube Investments, and other shares which in any case are regarded as being outside the threat of nationalisation.

Argentine railway stocks rallied strongly with gains of up to 2 points in some of the senior stocks, Sir Montague Eddy's remarks having reinforced confidence in the outcome of the Argentine railway deal. Despite the better tendency, 4 per cent. debenture stocks of the leading companies are still 10 points below share-out levels at the time of writing; while B.A.G.S. 5 per cent. preference is now 62, or 13 points below the share-out price of 75. Only fractional movements were recorded in the junior or ordinary stocks.

The better tendency extended to Brazil rails, where San Paulo was favoured on the continued belief in the market that on the full compensation basis the current price of 142 will prove to be a substantial under-valuation. Leopoldina and Great Western of Brazil stocks were also better, but Canadian Pacific eased to 16.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffics to date			Shares or Stock	Prices		
			Total this year	Inc. or dec. compared with 1945/46		Totals		Increase or decrease		Highest 1946	Lowest 1946	Sept. 9, 1947
						1946/7	1945/6					
South & Central America												
Antofagasta ...	834	31.8.47	£ 46,290	+ £ 11,900	35	£ 1,434,850	£ 1,124,130	+ £ 310,720	Ord. Stk.	11	10½	10½
Arg. N.E. ...	753	30.8.47	ps. 354,000	+ ps. 49,000	9	ps. 2,794,600	ps. 2,809,800	- ps. 15,200	"	17	5	10
Bolivar ...	174	July, 1947	\$98,317	- \$9,349	30	\$773,180	\$760,024	+ \$13,156	6 p.c. Deb.	64	54	19½
Brazil ...	...	...	...	...	...	...	...	...	Bonds	30	26	33½
B.A. Pacific ...	2,771	30.8.47	ps. 2,625,000	+ ps. 625,000	9	ps. 21,800,000	ps. 19,013,000	+ ps. 2,787,000	Ord. Stk.	84	54	81
B.A.G.S. ...	5,080	30.8.47	ps. 3,369,000	+ ps. 655,000	9	ps. 28,850,000	ps. 28,917,000	+ ps. 933,000	Ord. Stk.	16	10½	15½
B.A. Western ...	1,924	30.8.47	ps. 1,617,000	+ ps. 60,000	9	ps. 12,009,000	ps. 10,668,000	+ ps. 1,341,000	"	19	9	20½
Cent. Argentine ...	3,700	30.8.47	ps. 3,376,365	+ ps. 124,025	9	ps. 28,754,970	ps. 27,939,395	+ ps. 815,575	"	10½	7½	16½
Do. ...	970	30.8.47	28,748	- 6,685	9	289,849	316,864	- 27,015	Dtd.	6	4½	11½
Costa Rica ...	262	June, 1947	34,128	+ 8,679	52	356,876	344,680	+ 12,196	Ord. Stk.	83	31	16½
Dorada ...	70	July, 1947	33,000	- 2,100	31	212,800	221,375	- 8,575	Srk.	15	12	10
Entre Rios ...	808	30.8.47	ps. 451,200	+ ps. 18,200	9	ps. 3,818,800	ps. 3,819,700	- ps. 900	1 Mt. Deb.	102½	99½	108
G.W. of Brazil ...	1,030	30.8.47	25,600	- 300	35	1,093,200	954,600	+ 138,600	Ord. Stk.	9	5½	9½
Inter. Ctl. Amer. ...	794	June, 1947	\$1,002,064	+ \$199,162	26	\$6,902,843	\$5,657,516	+ \$1,245,327	Ord. Stk.	26½	20½	3
La Guaira ...	223	Aug., 1947	\$97,074	- \$25,111	35	\$882,233	\$944,426	- \$62,193	5 p.c. Deb.	70	58	83½
Leopoldina ...	1,918	30.8.47	£ 65,919	- £ 12,786	35	£ 2,293,684	£ 2,021,483	+ £ 272,201	Ord. Stk.	5	3½	12½
Mexican ...	483	31.5.47	ps. 1,464,000	+ ps. 459,100	22	ps. 7,706,200	ps. 13,441,400	+ ps. 5,735,200	Ord. Stk.	14	4	1
Midland Uruguay ...	319	July, 1947	15,947	- 3,037	4	15,947	18,984	- 3,037	"	—	—	—
Nitrato ...	382	31.8.47	10,064	+ 644	35	155,200	144,782	+ 10,418	Ord. Sh.	83/9	71/3	67/4
N.W. of Uruguay ...	113	July, 1947	3,987	- 716	4	3,987	4,703	- 716	"	—	—	—
Paraguay Cent. ...	274	25.7.47	£ 75,097	+ £ 15,672	4	£ 202,849	£ 228,044	- £ 25,195	Pr. Li. Stk.	78½	60	44½
Peru Corp. ...	1,059	Aug., 1947	169,493	- 289	9	332,183	320,684	+ 11,499	Prf.	16	8½	8½
Salvador ...	100	June, 1947	c91,000	+ c11,000	52	c1,699,000	c1,597,450	+ c101,550	"	—	—	—
San Paulo ...	153½	July, 1947	5,585	+ 1,790	4	5,585	3,795	+ 1,790	Ord. Stk.	119½	52½	142
Taltal ...	156	30.8.47	58,438	+ 277	9	539,629	495,883	+ 43,746	Ord. Sh.	22½	15½	17½
United of Havana ...	73	July, 1947	1,072	- 58	4	1,072	1,130	- 58	Ord. Stk.	2	1½	2
Uruguay Northern ...	...	...	...	...	...	...	...	...	"	—	—	—
Canada												
Canadian National ...	23,535	July, 1947	9,507,250	+ 896,000	30	62,567,500	55,150,500	+ 7,417,000	"	—	—	—
Canadian Pacific ...	17,037	31.8.47	2,143,500	+ 57,000	35	51,288,750	47,182,000	+ 4,106,750	Ord. Stk.	25½	16½	16½
Various												
Barsi Light ...	202	July, 1947	34,095	- 2,220	18	114,300	109,700	+ 4,600	Ord. Stk.	123½	111	110½
Beira ...	204	J. ne. 1947	99,433	+ 20,525	37	828,897	676,166	+ 152,731	"	—	—	—
Egyptian Delta ...	607	20.8.47	16,791	- 887	15	179,814	181,642	- 1,728	Prf. Sh.	9½	5	6
Manila ...	...	...	...	...	...	...	...	...	B. Deb.	75	60	71½
Mid. of W. Australia ...	277	July, 1947	17,688	+ 3,193	4	17,688	14,495	+ 3,193	Inc. Deb.	85	70	75
Nigeria ...	1,900	J. ne. 1947	311,524	- 47,389	13	3,700,591	3,950,664	- 250,073	"	—	—	—
Rhodesia ...	2,445	June, 1947	569,518	+ 35,926	37	4,978,485	4,600,382	+ 378,103	"	—	—	—
South African ...	13,323	9.8.47	1,249,412	+ 179,942	19	23,202,261	20,557,034	+ 2,645,227	"	—	—	—
Victoria ...	4,774	May, 1947	989,352	- 361,928	48	—	—	—	"	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee